

Adult Attachment, Social Comparison, Romantic Relationship Experience,
and Well-Being

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Abstract

A review of the adult attachment literature revealed previous research findings to demonstrate attachment-based baseline differences in the well-being factor of life satisfaction but not to consider moderating factors nor fluctuations in life satisfaction experience. Furthermore, social cognitive processes highlighted within the subjective well-being literature, namely those captured within social comparison theory, have rarely been examined within an adult attachment perspective. The current thesis sought to address these gaps through investigating the predictive influences of moderating and mediating factors in associations between adult attachment and well-being. Across 5 studies, individuals' relationship experiences (namely relationship status, satisfaction, and status-changing events), social comparison tendencies (both within general and relationship- and partner-specific contexts), and social-comparison ranking perceptions were each examined. Findings revealed that relationship experiences indeed appeared to moderate individuals' attachment-based feelings of subjective well-being, with greater anxiety in particular suggestive of more maladaptive cognitive and affective experience (Study 1). Social comparison tendencies, both general and interpersonally-oriented, were also identified to differ on the basis of anxiety and avoidance, with adverse comparison habits found to partially mediate associations between anxiety and both life satisfaction and self-esteem (Studies 2 and 4). Lastly, attachment-based differences in social-ranking perceptions were identified (Study 5), with anxiety found to interact with relationship status while an interaction between anxiety, ranking perceptions and relationship length as predictor of life satisfaction was found to be approaching significance.

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Chapter 1. Literature Review

Attachment theory

In his original theory, Bowlby (1969, 1973, 1979, 1980) put forward that all humans are born with a biologically programmed system evolved to allow for the formation of an emotional bond to a primary caregiver. Activated in times of perceived threat, this system promotes behaviours in the infant, such as crying, clinging, and proximity seeking, that elicit caregiving behaviours from an attachment figure, such as holding and cuddling, providing both comfort and protection. It is through these reciprocal caregiver-infant interactions that an attachment relationship develops and is the basis on which an infant develops a trust in their caregiver's availability and reliability to be used as a "secure base" (Ainsworth & Wittig, 1969) from which to explore their environment and return to in times of perceived threat.

Key to the type of attachment relationship that develops is the nature of the caregiver's responsiveness to their infant's attachment signals. Through their work involving extensive home observations and the use of the strange situation, Ainsworth and colleagues (Ainsworth, Bell, & Strayton, 1971; Ainsworth, Blehar, Waters, & Hall, 1978) were able to identify that when the caregiver is repeatedly and consistently responsive to their child's attachment needs, that child will develop a fundamental trust in their caregiver's availability, that is, they will develop a secure attachment orientation. However, caregiving styles that deviate from the above-described consistency in sensitivity whereby the caregiver is limited or changeable in their responsiveness are said to prohibit the development of a secure attachment orientation. Here, Ainsworth et al. (1978) put forward that the infant would be unable to develop that same trust in their caregiver and would instead develop one of two insecure attachment orientations: one of either anxious-ambivalence/resistance or avoidance.

These attachment outcomes can be understood through differences in what Bowlby (1969, 1973, 1980) termed internal working models: internalised representations that develop in response to interpersonal experiences, with those experiences with early primary caregivers being the most influential and enduring across the life course. According to Bowlby (1973), within each individual there exist two complementary internal models that govern how individuals interpret, relate to, and ultimately behave in their relationships across the lifespan. The first, the model of self,

comprises cognitions of how acceptable and worthy of love an individual believes themselves to be, while the second, model of other, consists of the type and level of responsiveness to attachment needs that is to be expected from significant others.

Subsequent to Bowlby's original theorising, research within the social and personality tradition suggested that the internal working models individuals form in infancy are carried into adulthood and impact on later romantic relationship functioning. In their seminal article, Hazan and Shaver (1987) applied Ainsworth et al.'s (1978) tripartite classification of security, avoidance, and anxious-ambivalence in identifying patterns of behaviours and feelings experienced in adult romantic relationships. What they found was a differential similarity in attachment-related classifications as those identified within the developmental literature, as well as theoretically-relevant differences in emotional involvement, suggesting that individuals' internal working models do indeed endure into adulthood and shape their interpersonal experiences.

But under what conditions do the different attachment orientations emerge during infancy? Ainsworth et al. (1978) put forward that in cases where the infant can rely upon a caregiver who is consistently responsive and sensitive to their needs, that infant develops the positive models that characterise secure attachment, namely, a positive model of self as worthy of love and a positive model of others as accepting and available. In cases where a caregiver limits their responsiveness to their infant, that infant develops an avoidant, deactivating attachment strategy (Cassidy & Kobak, 1988) whereby rejection of attachment needs is anticipated and so attention is defensively turned away from feelings of distress, eliminating need for comfort. What develops here is a less congruous set of internal working models in which a defensive positive model of self compensates for the negative model of others as unavailable; in other words, the lack of trust in others' responsiveness manifests a positive self-regard achieved through self-reliance and denial of attachment-related needs. In adulthood, avoidant individuals' deactivating strategy results in a disregard of potential threats to relationships, an emotional distancing from interdependence and a downplaying of need for intimacy (see Mikulincer & Shaver, 2005, for review).

Lastly, in cases where a caregiver is responsive to their infant but inconsistently so, the infant relies upon an anxious-ambivalent, hyperactivating strategy (Cassidy & Kobak, 1988) in which attention is chronically turned towards their caregiver's behaviours, vigilant for signs of availability, and display heightened and exaggerated distress in order to elicit a response to their attachment needs (Carlson & Sroufe, 1995;

Weinfield, Sroufe, Egeland, & Carlson, 1999). The internal working models that develop from experiences such as these include a negative model of self but a positive model of other. Here, the caregiver's inconsistent responsiveness inhibits the development of feelings of autonomy within the infant, such that they perceive themselves negatively as unable to reliably influence positively-viewed others i.e. those perceived as able to respond but do not due to insufficiencies on the infant's part (Ainsworth & Bell, 1974; Sroufe, Fox, & Pancake, 1983; see Weinfield et al., 1999). In adulthood, anxious individuals' hyperactivation of the attachment system results in an increased vigilance and greater sensitivity to perceiving potential threats to relationships (Simpson, Ickes, & Grich, 1999) leading to maladaptive behaviours intended to ensure chronic availability of partners, such as controlling and coercive behaviours. The lack of confidence and autonomy development from inconsistent caregiver responsiveness in infancy also leads anxious individuals to demonstrate insecurity over independence within their relationships (see Shaver & Mikulincer, 2007) and over-reliance on partners for self-validation (with negative partner feedback indicative of rejection adversely impacting upon them (e.g., Hepper & Carnelley, In Press) and positive partner behaviours proving beneficial for self- and partner-esteem (e.g., Alfasi, Gramzow, & Carnelley, 2010; Pietromonaco & Feldman Barrett, 2006).

While much research was carried out using the tripartite classification system in investigating adult attachment patterns, acknowledging the limitations of such categorical assessment further research suggested a dimensional consideration of attachment would provide a more meaningful insight into attachment-related processes and hence put forward that adult attachment styles emerge from two underlying dimensions: anxiety, concerning the extent to which individuals worry about abandonment and rejection; and avoidance, concerning the extent to which individuals limit intimacy with others (e.g., Brennan, Clark, & Shaver, 1998; Fraley, Waller, & Brennan, 2000). From both these underlying dimensions and the internal working models of self-other can four attachment styles be identified in which individuals can differ in the extent to which they endorse each one: secure, preoccupied, dismissing-avoidant, and fearful-avoidant (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994).

The self-other models for the secure and anxious/ambivalent (corresponding to preoccupied) styles are equivalent to those in Bartholomew and Horowitz' four-category conceptualisation, with the former characterised by low anxiety and avoidance and the

latter characterised by high anxiety/low avoidance. With its low anxiety and high avoidance, dismissing corresponds to Ainsworth et al.'s (1978) tripartite avoidance. However the fourth, fearful-avoidance, is characterised by high anxiety, high avoidance, and negative models of both self and other, that is, a negative sense of self as unworthy of love and a negative expectation of others as unavailable and rejecting. In adulthood, both avoidant styles experience discomfort with intimacy and closeness in their relationships and maintain distance from others but the bases for each differ as a product of their interactions with anxiety. With their high anxiety, fearful individuals desire closeness with others but fear rejection and so their avoidance serves as a protective function for their negative expectations (Bartholomew, 1990). With their low anxiety, dismissing individuals feel discomfort with intimacy as it infringes upon the autonomy and independence they desire; here, distancing behaviours stem not from fear but rather from need for self-reliance (Fraley, Davis, & Shaver, 1998).

While the above internal working models and associated anxiety and avoidance dimensions have been shown to be moderately stable and enduring into adulthood (see Fraley, 2002), they have also been shown to change across time, as well as across different relationships, and hence controversy exists in their actual structural nature and stability. Davila and Cobb (2004) draw attention to Bowlby's (1969) original proposition that changes in attachment style can occur due to reorganisation of working models in response to interpersonally significant events and outline three models that might account for observed differences and changes in attachment style: the life stress model, the social-cognitive model, and the individual-difference model. The life-stress model echoes that of Bowlby's (1969) original theorising and suggests that changes in degree of attachment security are a result of significant life events or changes in life circumstance. The findings testing this model are mixed, however. For example, Kirkpatrick and Hazan (1994) found that individuals who experienced romantic relationship dissolution were more likely to become insecure than others, while Baldwin and Fehr (1995), Davila, Burge, and Hammen (1997), and Scharfe and Bartholomew (1994) all found no such associations. Along with limited support, a further limitation of this perspective lies in its suggestion of attachment security changes in response to life events as being permanent and hence does not account for either fluctuations in security or differences across relationships.

The social-cognitive model has received greater support within the adult attachment literature. This model suggests that any observed changes or variability in

attachment orientation are due to what Davila and Cobb (2004) describe as “changing states of mind” (p. 145), such that individuals have several internal working models and that individuals’ current level of attachment security hinges on which of these models are most accessible to them at the time. Major proponents of this perspective are Collins and Read (1994). Noting that infants often have different attachment relationships with each of their parents (e.g., Bridges, Connell, & Belsky, 1988, Fox, Kimmerly, & Schafer, 1991; Lamb, 1978; Main & Solomon, 1990; Main & Weston, 1981), they put forward that internal working models are too complex to be conceptualised as a singular pair of self-other models and suggested instead that individuals’ internal working models should be thought of as a network comprising several interconnected models that are hierarchical in structure. At the top of the hierarchical network is an individual’s generalised attachment representations of self and other. Connected to this are domain-specific models that correspond to particular types of relationships (such as romantic or familial relationships) and lastly connected to these are relationship-specific models that develop as a result of new interpersonal experiences with specific attachment figures. Collins and Read (1994) argue that which model within the network is activated at a given time depends on the strength and specificity of the model, as well as how the characteristics of the situation match, but that stronger models, that is, ones that are based on greater experience and are applied most often, should be the most accessible. The advantage of considering internal working models as structured in this way lies in its applicability to observations of both attachment variability across relationships as well as changes over time. In considering attachment variability (e.g., Ross & Spinner, 2001), different self-reported attachment orientations reflect activation of either domain- or relationship-specific working models. In examining change in security over time, for example, within a long-term relationship (e.g., Duemmler & Kobak, 2001), models based upon experiences within the current relationship become more accessible over time due to repeated assimilation and integration of new experiences, resulting in the model becoming more central and densely interconnected within the network and hence impacting upon the individual’s general attachment orientation. Lending support to Collins and Read’s (1994) view of a hierarchical structure, studies examining adult attachment variability and stability have identified that individuals can indeed endorse more than one attachment style across relationships. For example, Baldwin, Keelen, Fehr, Enns, and Koh-Rangarajoo (1996) found participants to report experiencing relationships fitting different attachment patterns and could be primed to have increased

temporary access to particular attachment models, influencing their preference towards hypothetical partners who shared their primed attachment orientation. Using a similar priming focus, Rowe and Carnelley (2003) found that individuals in their study could be primed with a secure orientation as evidenced by recalling more positive attachment-related words and through reporting greater endorsement of positive and lesser endorsement of negative interpersonal expectations in comparison to other primed orientations. La Guardia, Ryan, Couchman, and Deci (2000) also found variability in attachment patterns across different relationships, including parents, romantic partners, and close friends. Rowe and Carnelley (2005) also found evidence in support of the notion of hierarchically-structured sets of working models, while Overall, Fletcher and Frisen (2003), testing the propositions put forward by Collins and Read (1994) directly, also found evidence to support a hierarchical structure over the structural conceptualisations of a single global working model and multiple but independent working models.

The final model described by Davila and Cobb (2004) is that of the individual-difference model which puts forward that certain dispositional and situational characteristics (such as parental divorce or psychopathology) result in some individuals being more susceptible and vulnerable to attachment security fluctuations. In this way this perspective sees attachment fluctuation as a characteristic of attachment insecurity; adverse conditions inhibit the development of stable models of self and others and the resulting lack of clarity of beliefs about self and expectations of others is what accounts for changes in security across relationships and time. Support for this model comes from two recent studies: Davila et al. (1997) found that individual vulnerability factors were associated with change in self-reported attachment patterns and were better predictors than were life events. Davila and Cobb (2003) also found dispositional factors such as psychopathology and personality pathology were associated with lack of clarity in internal working models of self and other, and that this in turn was associated with decreases in levels of security over time.

In sum, while each of the above three models describing attachment structure and resulting variability have received empirical support, the lack of consistency in these findings prevents a clear-cut understanding of the structural nature of individuals' internal working models. However, within the adult attachment literature, researchers have generally concentrated on examining generalised attachment orientations, employing self-reported measurement applicable to general feelings of anxiety and

avoidance and not feelings specific to any given relationship. Within this literature, the anxiety and avoidance dimensions and associated attachment styles have been consistently found to predict differences in relationship experiences.

Adult attachment and relationship experience

Studies examining differences in relationship experience generally point to the pattern of secure individuals reporting more positive relationship experiences and those fitting insecure attachment classifications reporting more negative experiences. In their original paper, Hazan and Shaver (1987) found secure individuals to report their most important relationship experience as happy, friendly and trusting in which they were able to accept and support their partner. Avoidant individuals described themselves as experiencing fear of intimacy in their relationships, which were characterised by emotional highs and lows, as well as feelings of jealousy. Lastly, anxious-ambivalent individuals were characterised by obsessive preoccupation, desire for reciprocation and union, emotional highs and lows, and extreme sexual attraction and jealousy.

On the basis of the above differences in relationship experiences it logically follows that differences in levels of satisfaction derived from those experiences should emerge. Indeed, individuals with a secure attachment style consistently report greater relationship satisfaction than those with either anxious or avoidant attachment styles (Collins & Read, 1990; Feeney, 2002; Jones & Cunningham, 1996; Pistole, 1989; Simpson, 1990; Stackert & Bursik, 2003; Tucker & Anders, 1999). Further highlighting security as enabling more satisfying relationship experiences, Mikulincer and Erev (1991) found secure individuals to report the greatest intimacy in their relationships over their avoidant and anxious-ambivalent counterparts. Collins (1996) additionally found preoccupied individuals to explain relationship events more negatively and to report carrying out behaviours that were independently rated as more likely to lead to conflict, while Campbell, Simpson, Boldry, and Kashy (2005) found individuals high in anxiety to report greater daily conflict, as well as greater conflict escalation, than would be expected on the basis of their partners' reports. Carnelley, Israel and Brennan (2007) further found that individuals high in anxiety reported greater negative mood to partner feedback, providing further evidence of a greater negativity in interpersonal interactions. Extending across several types of relationships, Pietromonaco and Feldman Barrett (1997), Tidwell, Reis, and Shaver (1996) and Kafetsios and Nezlek (2002) all identified differences in cognitive reactions to day-to-day interpersonal interactions. Their findings indicate secure individuals report feeling happier in their interactions and perceive others

to be more responsive and understand them more compared to dismissing individuals and to perceive less rejection than those reporting as preoccupied, who were identified as reporting lower self-esteem after interactions than secure. In addition to more positive relationship perceptions, secure individuals have been found to report more trust towards their partners and have a higher accessibility of positive trust-related memories (Mikulincer, 1998a; Simpson, 1990), as well as reporting greater relationship interdependence and commitment (Simpson, 1990).

In sum, secure individuals generally report more positive relationship experiences than anxious and avoidant individuals. They are not immune, however, from the relationship tensions and difficulties reported by their insecure counterparts, but differ in their ability to use more adaptive responses and strategies that limit stress and maximise opportunities for emotional rewards (see Feunderling, 1998). Secure individuals adopt more constructive strategies in coping with the violation of trust than insecurities (Mikulincer, 1998a). Anxious individuals meanwhile are found to respond to hypothetical partner transgressions by endorsing relationship-threatening attributions, experiencing emotional distress, and endorsing behavioural intentions likely to result in conflict (Collins, Ford, Guichard, & Allard, 2006). Additionally, Sharpsteen and Kirkpatrick (1997) found anxious-ambivalent individuals to report greater chronic feelings of jealousy than secure individuals. However in typical jealousy episodes, while both secure and anxious individuals experienced anger, anxious individuals were less likely than secure to direct their feelings of anger associated with jealousy towards their partners, instead experiencing non-targeted feelings of irritability. Suggested by Sharpsteen and Kirkpatrick (1997) as being a potential result of feelings of inferiority and fear, this non-confrontational style of reaction to jealousy can be attributable to anxious individuals' preoccupation with maintaining a positive attachment relationship with partners and therefore deeming more confrontational approaches as detrimental to that aim.

As strategies for coping with negative relationship-related feelings vary as a function of attachment orientation, so too do strategies of conflict and conflict resolution. Secure individuals are found to employ constructive means of resolving conflict and disagreement. Pistole (1989) found secure individuals to be more likely than insecure individuals to use a mutually-focused integrating strategy to resolve conflict. Avoidant individuals meanwhile were found to favour compromising strategies that allow for resolution without direct addressing of conflict-related distress. With their

preoccupation with maintaining favour with their partners, anxious-ambivalent individuals were reported to rely on obliging strategies that focus on their partners' needs. Indeed, research consistently finds attachment security to be associated with more constructive means of resolving conflict, employing compromising and integrating strategies (Levy & Davis, 1988; O'Connell Corcoran & Mallinckrodt, 2000) and demonstrating greater mutuality (Feeney, 1994). Attachment anxiety and avoidance meanwhile are associated with less constructive conflict styles (Carnelley, Pietromonaco, & Jaffe, 1994), negative escalation and withdrawal (Creasy & Hesson-McInnis, 2001; Creasy, Kerhsaw, & Boston, 1999), dominating behaviours (Levy & Davis, 1988) and distress (Feeney, 1994; see Pietromonaco, Greenwood, & Feldman Barrett, 2004, for review).

Adult attachment and relationship dissolution

A negative relationship event that is central to activation of the attachment system (and indeed central to Bowlby's conceptualisation of attachment theory as a whole) is that of relationship dissolution. In his original theorising, Bowlby (1980) put forward that the attachment system serves as a psychobiological motivator to maintain proximity to, and thus prevent separation from, others able to protect them and hence ensure their survival to reproductive age. He discussed in-depth the normative response to separation and loss of an attachment figure and outlined three stages individuals must progress through; those of protest, despair, and detachment/reorganisation. Although his original writing was concerned with caregiver-infant dyads, Bowlby (1969) noted that adults display similar patterns upon separation from significant others and so considered adult pair-bonding to follow similar theoretical patterns to the infant experience of loss.

Protest responses are those that are carried out with the intention of either preventing separation from a caregiver or re-establishing a connection once separation has occurred. In infancy and childhood, feelings of anxiety and anger arise, promoting behaviours such as vigorous crying, aggressive behaviour, and proximity seeking. This stage is characterised strongly by intermittent but prolonged fear and distress that cannot be alleviated by the comforting efforts of non-attachment figures and which can last over a number of days (see Kobak, 1999, for review). Although such a debilitating response in which all attentional, behavioural, and emotional resources are focused on the lost caregiver might seem maladaptive, the evolutionary grounding emphasised by Bowlby (1969) highlights this post-separation reaction as actually highly adaptive: by using all available resources to locate and re-establish contact with a caregiver, the

infant is increasing their chance of survival into adulthood and therefore their reproductive fitness (Fraley & Shaver, 1999; see Simpson, 1999, for discussion on evolutionary perspectives).

The intense feelings of fear, anger and distress associated with protest are after a time replaced by the feelings of sadness and hopelessness that characterise the second stage of separation, despair. This stage commences at the point at which the infant recognises that the caregiver is lost to them and that separation appears permanent. Certain behaviours such as intermittent crying and hostile behaviour might emerge during this phase (Fraley & Shaver, 1999), but the predominant behaviours and feelings characterising this stage comprise diminished physical involvement and disengagement in social environments, as well as profound sadness akin to mourning (Bowlby, 1973).

Although the final stage was originally described as being that of detachment, subsequent thinking suggests the term reorganisation more accurately describes the processes taking place. The infant at this point engages in their social environment once more, no longer rejecting caregiving attempts made by available others and shows signs of interest in daily activities. The limitation of considering this as detachment lies in the failure to capture the cognitive reorganisation of working models to adjust to the attachment figure's absence, as well as the finding that attachment relationships can be re-established if the caregiver thought to be lost returns. Indeed, this final stage has been argued to not represent detachment at all but rather a defensive suppression of the attachment related cognitions and emotions deemed futile due to their failure to elicit the attached figure (Fraley & Shaver, 1999).

The above describes the normative processes put forward by Bowlby (1969, 1973, 1980) that are expected in separation from attachment figures in infancy; as the research carried out by Ainsworth et al. (1971, 1978) discussed earlier suggests, however, the nature of a caregiver's interactions with their infant and the subsequent attachment relationship that develops brings about deviations in reactivity and response to separation and loss.

In the brief separations observed in the Strange Situation, infants classified as secure were found to explore their environment using their mother easily as a secure base. Upon the mother's departure, some infants became distressed but not excessively so and were quickly comforted at reunion, returning to exploration and play shortly thereafter. Others were not distressed by the separation and demonstrated positive behaviours such as smiling and initiating interactions with their mothers upon her return.

Secure infants were also found to respond positively to the stranger in the room, some finding comfort in them in their mother's absence but always demonstrating preference towards the mother (Weinfield et al., 1999). Avoidant infants meanwhile showed little inclination of relying on their mother as a secure base, demonstrated little to no emotional reactivity upon the mother's departure and maintained distance from her upon her return. Avoidance of eye contact was frequently observed, as well as an attentional focus on toys; in cases where the mother attempted to establish a connection through picking up the infant, that infant would arch away to avoid such contact. Lastly, anxious-ambivalent (or resistant) infants were found to become distressed upon entering the room (that is, before the mother's departure) and often failed to engage in exploratory behaviours. Upon separation, the infants became deeply distressed and could not be calmed by the stranger. Reunion with the mother produced ambivalent behaviours whereby contact was sought but was accompanied by angry punishing behaviours; distress was not easily attenuated (Weinfield et al., 1999; see Solomon & George, 1999, for a summary).

From the above it becomes clear that differences exist in the emotional experience of separation across attachment, with secure infants showing moderate levels of distress, are soothed easily, and can even use others as a source of comfort in the caregiver's absence. Avoidant infants show minimal distress and a lack of interest in engaging in comfort-seeking behaviours, while anxious infants experience heightened emotionality that interferes with ability to be comforted. Research carried out on adult romantic relationship separation has identified similar patterns, further supporting Bowlby's (1969) contention of attachment continuity into adulthood. In their naturalistic study examining couples' airport separations, Fraley & Shaver (1998) found women high in avoidance carried out withdrawal behaviours at separation, minimising contact with their partners, while women high in anxiety reported increased distress. In examining differences in response to relationship break-up, studies have consistently found theoretically-linked post-dissolution emotions and behaviours. Barbara and Dion (2000) found preoccupied attachment, and Pistole (1995) found that individuals with fearful along with preoccupied attachment styles, reported more negative experiences after relationship dissolution than their secure counterparts. Feeney and Noller (1992) found attachment ambivalence to be associated with post-relationship upset, while finding also, along with Simpson (1990), a negative association between attachment avoidance and post-dissolution distress. Additionally, Sprecher, Felmlee, Metts, Fehr, and Vanni

(1998) reported fearful-avoidance to be associated with both initial distress at relationship dissolution and also distress subsequent to that. Further research has examined associations between attachment and relationship dissolution beyond purely emotional experience and into the nature and characteristics of such experience. Pistole (1996) reported feelings of self-reproach to be associated with preoccupied attachment, consistent with the conceptualisation of this orientation as characterised by negative feelings of self coupled with positive regard of others. Furthermore, blaming the partner was associated with fearful-avoidance, explainable by the associated negative expectations of others as rejecting being confirmed. Lastly, Davis, Shaver, and Vernon (2003) found associations between attachment anxiety and distress behaviours, such as physical/emotional distress, guilt and blame, and protest reactions such as anger and hostility, preoccupation with partner, interference with daily activities, and wanting to get the partner back. On this latter point in particular, Dutton and Winstead (2006) found similarly, with anxious attachment identified as a significant predictor of post-relationship unwanted pursuit behaviours. Attachment avoidance meanwhile was most associated with the coping behaviour of preferring to rely on the self rather than seeking comfort from friends and family (Davis et al., 2003).

Adult attachment and affect regulation

From the above it becomes clear that in addition to determining levels of comfort with intimacy and independence in relationships, a further consequence of variations in anxiety and avoidance, and hence attachment orientations, is that of emotional experience, regulation, and reactivity. Indeed, fundamental to Bowlby's (1973) theorising was the pivotal role of early attachment experiences in determining differences in emotion-regulation strategies, such as the aforementioned deactivating and hyperactivating strategies (Cassidy & Kobak, 1988) employed in infancy and childhood. Furthermore, these different emotion-regulating strategies are suggested to endure across the lifespan, determining individuals' emotional tendencies across a variety of social contexts. In terms of general levels of affect, attachment security is associated with more positive and less negative mood than either of the insecure attachment styles (e.g., Barry, Lakey, & Orehek, 2007; Simpson, Collins, Tran, & Haydon, 2007; Van Buran & Cooley, 2002; Wei, Russell, Mallinckrodt, & Zakalik, 2004). While such studies have found direct associations between attachment orientation and mood, recent research has found evidence to suggest that the link between insecure attachment and negative mood, as well as interpersonal problems, can be explained by

differences in emotionality, specifically emotional reactivity for anxiety and emotional cutoff for avoidance (Wei, Vogel, Ku, & Zakalik, 2005).

Individuals with an anxious attachment orientation are found to be more emotionally reactive to negative situations than their secure counterparts. Specifically, anxious individuals are less able to suppress negative affect and to inhibit emotional spreading (Mikulincer & Orbach, 1995), demonstrate hyper-vigilance towards the source of stress (Mikulincer, Orbach, & Iavnnelli, 1998) and experience heightened distress even in low-threat situations (Meyer, Oliver, & Roth, 2005) compared to secure individuals who report moderate emotional defensiveness but with easy access to negative thoughts without risk of emotional spreading (Mikulincer & Orbach, 1995). Studies examining neurological correlates support these findings, with anxious individuals demonstrating greater late positive potential (LPP) amplitudes reflecting the increased engagement and commitment of attentional resources associated with an increased emotional response (Zilber, Goldstein, & Mikulincer, 2007). Similarly, Gillath, Bunge, Shaver, Wendelken, and Mikulincer, (2005) found attachment anxiety to be positively correlated with greater activation of emotion-related areas of the brain and negatively correlated to activation of emotion-regulating areas of the brain, supporting the notion that anxiety reflects greater emotionality with poorer regulation ability (see Mikulincer & Shaver, 2005 for a review). Indeed poorer emotion regulation is an affective proclivity consistently found to characterise attachment anxiety (e.g., Mikulincer, 1998b; Mikulincer & Orbach, 1995). For example, anxious individuals' cognitive responses to negative stimuli is found to be affect-congruent and thus maintains negative thought (Pereg & Mikulincer, 2004) compared to secures' affect-incongruent strategies that serve to maintain positivity.

This focus on amplified emotional experience within anxious individuals contrasts greatly from the deactivating strategies adopted by those high in attachment avoidance. As suggested earlier through infant defensive denial of attachment needs, avoidant individuals in adulthood demonstrate high levels of emotional suppression and defensiveness (e.g., Fraley & Shaver, 1997), implementing restrictive control of emotions (Kotler, Buzwell, Romeo, & Bowland, 1994) and have low accessibility to negative memories (Mikulincer & Orbach, 1995). Further associated with this orientation is distancing coping strategies in stressful (Mikulincer & Florian, 1995; Mikulincer, Florian, & Weller, 1993), relationship-threatening (Meyer et al., 2005; Radecki-Bush, Farrell, & Bush, 1993), and separation (Fraley & Shaver, 1998)

situations, as well as inhibition of accessibility to representations of attachment figures in response to attachment-related threat (Mikulincer, Gillath, & Shaver, 2002).

Support seeking can be seen as an additional method of emotion regulation; in infancy, activation of the attachment system in response to perceived threat should lead to normative behaviours of seeking comfort from primary caregivers to attenuate feelings of distress. In adulthood, the proximity seeking behaviours in infancy translate into disclosure of distress and seeking and accepting emotional reassurance from significant others (see Collins & Feeney, 2000). Secure individuals, compared to both anxious and avoidant individuals, perceive themselves as having a larger support network (Priel & Shamai, 1995), higher levels of emotional and instrumental support from significant others (Florian, Mikulincer, & Bucholtz, 1995; Ognibene & Collins, 1998) and in times of stress and anxiety, use these significant others as a source of support and help (Larose, Bernier, Soucy, & Duchesne, 1999; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Simpson, Rholes, & Nelligan, 1992). Findings of support-seeking in anxious individuals, however, are inconsistent, with some studies reporting preference for support-seeking behaviours and others identifying no such patterns (see Feeney & Collins, 2004). Avoidant individuals meanwhile are less likely to seek support (Simpson et al., 1992). Instead they show signs of distress when confronted with support-seeking situations in which the level of psychological distance they are comfortable with may be compromised (e.g., Rholes, Simpson, & Grich Stevens, 1998; Rholes, Simpson, & Orina, 1999), reflecting their general feeling of discomfort with the intimacy required in emotional dependency.

Implicit in the notion of seeking support from others is the assumption of co-occurring self-disclosure; in order to seek others to attenuate feelings of distress and anxiety one must be able and willing to communicate those feelings to them. With their comfort with and desire for intimacy, both secure and anxious individuals have been found to demonstrate greater self-disclosure to partners (e.g., Mikulincer & Nachshon, 1991; Pistole, 1993) than avoidant individuals. Furthermore, while secure and anxious individuals respond positively to similarly high-disclosing, and therefore high-intimacy, partners, avoidant individuals respond negatively, reporting less inclination to reciprocate disclosure and also liking such partners less (Mikulincer & Nachshon, 1991).

While the above studies demonstrate differences in interactional behaviour with attachment figures in response to attachment system activation, further research suggests that in the physical absence of attachment figures, internalised representations can serve

as a substitute. In their study examining Israeli ex-prisoners' retrospective accounts of imprisonment, Solomon, Ginzburg, Mikulincer, Neria, and Ohry (1998) found those reporting as secure relied upon positive memories of, as well as imagined positive interactions with, attachment figures as a form of symbolic support during their time in prison. Within laboratory settings, secure individuals have been shown to demonstrate greater accessibility to internalised representations of attachment figures in threatening situations (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Mikulincer et al., 2002) and to experience increased positive affect as a result of this accessibility (e.g., Mikulincer et al., 2001; Mikulincer, Hirschberger, Nachmias, & Gillath, 2001) suggesting attachment security to reflect an adaptive cognitive bias that enables self-regulatory coping in the absence of significant others. Insecure individuals meanwhile have been shown to experience increased levels of distress upon activating internalised representations of significant others in stressful situations (McGowan, 2002), highlighting attachment insecurity as a deviation from normative cognitive and affective processes that should optimise psychological well-being.

Adult attachment and subjective well-being

Researchers within the subjective well-being (SWB) literature have long argued the importance of affective experience, emphasising positive and negative affectivity as being two interrelated but separable components (Bradburn & Caplovitz, 1965; Diener, 1994; Diener, Smith, & Fujita, 1995) that individuals often use as a basis for forming evaluations of overall well-being (e.g., Schwartz & Strack, 1991; Suh, Diener, Oishi, & Triandis, 1998). While both positive and negative affect are found to be related to well-being, the former has been identified as a stronger predictor than the latter (e.g., Lucas, Diener, & Suh, 1996; Suh et al., 1998). However, important to note is that it is not necessarily the *intensity* of emotional experience that is predictive of subjective well-being but rather both the *hedonic balance* (that is, the ratio of positive to negative affect) as well as the *frequency* of positive and negative affect experienced that predicts well-being (Diener, Colvin, Pavot, & Allman, 1991; Diener, Sandvick, & Pavot, 1990; Schimmack, Diener, & Oishi, 2002; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Adahi, 2002; Suh et al., 1998).

The affective profiles for each attachment orientation outlined above suggests that with their low anxiety and avoidance, secure individuals experience the greatest subjective well-being over their insecure counterparts due to their favourable hedonic balances (that is, increased positive and decreased negative affect, see Mikulincer,

Shaver, & Pereg, 2003) resulting from emotion-regulation strategies that serve to minimise distress and maintain positivity (e.g., Pereg & Mikulincer, 2004). With both high anxiety and avoidance associated with negative mood (e.g., Barry et al., 2007), individuals fitting the fearful-avoidant attachment orientation experience the poorest subjective well-being due to their negative affective experience outweighing their positive (e.g., Horppu & Ikonen-Varila, 2001). As earlier described, preoccupied individuals' high anxiety ensures a greater tendency towards negative interpretation (e.g., Collins, 1996) and as a response to this their hyperactivating affective bias results in greater frequency of negative affect (e.g., Meyer et al., 2005). However this bias, coupled with their low avoidance, does not deny them positive emotional experience; Shaver and Mikulincer (2003, as cited in Mikulincer & Shaver, 2005) reported anxious individuals to respond to positive partner behaviours with security-related feelings as well as happiness and love. From this, while their subjective well-being should be lower than secures, their well-being is higher than that experienced by their fearful-avoidant counterparts due to their positive affect providing a certain level of counterbalance to their negative. Lastly, those fitting the dismissing-avoidant categorisation do report lower mood than secures (e.g., Barry et al., 2007; Wei et al., 2004) but with their high avoidance, the defensive nature of their orientation in which feelings of distress are defensively denied cognitive attention leads to a more favourable hedonic balance than their high anxiety counterparts (who experience heightened feelings of distress). However, their well-being should be considered lower than secure individuals since the basis of their hedonic balance is a result of a defensive denial of negative experience rather than the active experience of positive affect reported by secures (and deemed more instrumental as a well-being predictor (Lucas et al., 1996; Suh et al., 1998)).

Taken together, as would be expected on this basis, affective disorders are most associated with attachment insecurity and a major association in subjective well-being found within the attachment literature is that between attachment insecurity and depression. This is not to say that depression stems from adverse affective proclivities, but rather adverse experiences in infancy that lead to attachment patterns characterised by maladaptive affect-regulatory practices provide the right circumstances for affective disorders to arise. For example, Bifulco et al. (2006) found attachment insecurity to mediate the relationship between childhood neglect and risk for developing an affective disorder. Indeed, both attachment anxiety and avoidance have been found to relate to depression and depressive symptoms (e.g., Carnelley et al., 1994; Eng, Heimberg, Hart,

Schneier, & Liebowitz, 2001; Mickelson, Kessler, & Shaver, 1997; Murphy & Bates, 1997; Permuy, Merino, & Fernandez-Rey, 2009; Van Buran & Cooley, 2002). More recent work has examined the nature of this relationship and identified several mediating factors; Tasca et al. (2009) identified both emotional reactivity as a mediator between anxiety and depressive symptoms and emotional deactivation as a mediator for attachment avoidance, emphasising the impact of emotional experience on subjective well-being. However, cognitive mediators have also been identified. Williams and Riskind (2004) identified cognitive vulnerabilities to partially mediate between attachment insecurity and depressive symptoms, while Roberts, Gotlib, and Kassel (1996) found dysfunctional attitudes and decreased self-esteem to mediate between attachment insecurity and increasing depressive symptoms over time.

Significant in determining well-being, the issue of decreased self-esteem in attachment insecurity has been examined extensively within the adult attachment literature. From a theoretical standpoint, individuals high in anxiety, whose internal working models of self dictate negative self views, should experience decreased self-esteem compared to those whose models of self are more positive. Consistent with this conceptualisation, individuals high in attachment anxiety (that is, those with negative self models) report lower self-esteem than those low in anxiety (Bartholomew & Horowitz, 1991; Bylsma, Cozarrelli, & Sumer, 1997; Collins & Read, 1990; Feeney & Noller, 1990; Pietromonaco & Feldman Barrett, 1997). However, while secure and dismissing-avoidant individuals (with their positive self-models) report similarly higher self-esteem, the differing bases for these two orientations means a differentiation between the two must be made. As discussed earlier, in infancy, secure individuals form positive self models as worthy of love as a direct result of consistent and dependable caregiver responsiveness to attachment needs. Avoidant individuals develop defensive positive views of self as a response to inadequate caregiver responsiveness, that is, in the absence of early support they favour self-reliance as a means of maintaining positive self-regard. In this sense, secure individuals report 'true' higher self-esteem whereas dismissing-avoidant individuals report defensive higher self-esteem as a coping mechanism against their insecurity. Brennan and Morris (1997) provide some support for this contention, finding in their study that attachment security was associated with self-liking while attachment dismissing-avoidance was associated with self-competency. Similarly, Brennan and Bosson (1997) reported dismissing-avoidant individuals to be averse to partner feedback as a means of self-validation, while Mikulincer (1998b)

found evidence to suggest that avoidant individuals' positive self-view was related to attempts to validate their sense of self-reliance, further suggesting their self-esteem to be based on a defensive cut-off and independency from others. Additionally, the defensive nature of their self-esteem appears fragile, such that dismissing individuals deny themselves acknowledgement of personal deficiencies (Mikulincer, 1995, 1998b) and will defensively project any flaws onto others (Mikulincer & Horesh, 1999) in order to maintain their self-regard. Taken together, these findings all provide support for the notion that while both secure and dismissing-avoidant individuals report higher self-esteem, the latter's appears to be a surface projection borne from a self-protective denial of insecurity.

Adult attachment and life satisfaction

While SWB researchers have emphasised the importance of positive and negative affect in predicting subjective well-being, they have also drawn attention to cognitive factors (e.g., Suh et al., 1998). The issue of self-esteem discussed above highlights a cognitive evaluation relevant to individual well-being, however one that is considered central in the well-being literature is individuals' global evaluations of their satisfaction with life. Indeed, as suggested earlier, researchers conceptualise subjective well-being as divided into three interrelated but distinct and separable (e.g., Diener, 1994, Diener, Suh, Lucas, & Smith, 1999; Huebner, 1991c) components comprising the aforementioned positive and negative affectivity (Bradburn & Caplovitz, 1965; Diener et al., 1995), as well as a cognitive-judgmental evaluation of global satisfaction with life (Andrews & Withey, 1976; Bradburn, 1969; Diener & Diener, 1996; see Lucas et al., 1996).

Life satisfaction is defined as an individual's evaluative summary of the quality of his or her life as a whole (Heller, Watson, & Ilies, 2006) that is linked to, but can transcend, judgments of factors both interpersonal (such as family and friends) and intrapersonal (such as mood states) in nature (Gilman & Huebner, 2003; Huebner, 1991b). Shin and Johnson (1978) emphasise the role of individuals' a priori chosen criteria as a basis for their evaluations, suggesting cognitive-judgmental assessment of satisfaction to be an outcome of comparisons against personally-defined standards and ideals (Diener, Emmons, Larsen, & Grifffon, 1985). The subjective focus on internal standards results in external and hence objective factors having little weight in determining life satisfaction outcomes. Although heuristically counterintuitive, research consistently finds only modest associations at most between life satisfaction and factors such as age, education, and income/socioeconomic status (e.g., Andrews & Withey,

1976; Huebner, 1991a, 1991b, 2004; Wilson, Henry, & Peterson, 1997; see Diener & Diener, 1996 for review). It is with subjective factors such as personality where stronger associations are found. For example, research has identified Big Five factors (McCrae & Costa, 1987) extraversion, neuroticism, and conscientiousness (e.g., Hayes & Joseph, 2003) as well as self concept and esteem (e.g., Diener & Diener, 1995; Diener et al., 1985; Leung & Leung, 1992) to be predictive of life satisfaction. Recent years, however, have seen the emergence of empirical examination of life satisfaction on the basis of adult attachment orientation. With research identifying the earlier described differences in the affective components of well-being across attachment orientation, it logically follows that differences should emerge on the cognitive-judgmental component of life satisfaction also.

As would be expected, research investigating associations between adult attachment and life satisfaction has generally found attachment security to relate to higher life satisfaction. In their study investigating links between attachment working models and psychological adjustment, Cozarelli, Hoekstra, and Bylsma (2000) found that individuals with more positive models of self reported higher satisfaction than those with more negative models of self. Similarly, both Kim, Carver, Deci, and Kasser (2008) and Hinnen, Sanderman, and Sprangers (2009) found attachment anxiety and avoidance correlated negatively with life satisfaction. Hwang, Johnston, and Smith (2009) investigated psychosocial adjustment in individuals with physical disabilities and found individuals fitting a secure attachment classification reported the highest satisfaction while those fitting a fearful-avoidant attachment classification reported the lowest. However, no group differences were found for preoccupied and dismissing-avoidant classifications. Whilst these studies concentrated on attachment orientation as conceptualised in terms of anxiety and avoidance dimensions, Armsden and Greenberg (1987), Nickerson and Nagle (2004), and Wilkinson and Walford (2001) measured attachment in terms of facets such as trust, communication, and alienation. Here, the positive aspects of peer and parent attachment relationships (that is, trust and communication) were predictive of greater satisfaction with life.

But what might account for the observed differences in life satisfaction judgments across attachment orientation? While the above studies have established that there is a relationship, the theoretical exploration of why this relationship exists has been light, focusing on highlighting attachment co-correlates that predict life satisfaction, such as neuroticism, and well-being co-correlates that relate to attachment, such as self-esteem.

However there is much in attachment theory itself and related cognitive processes that might account for the reported findings.

One possible explanation has its basis in the social cognition literature and emphasises the importance of cognitive self-structure and complexity as a determinant of subjective well-being. Recognising the long-held assertion that self-cognitions play an instrumental role in mental health processes (e.g., Beck, 1976; Higgins, Klein, & Strauman, 1985; Kuiper & Derry, 1981), Linville (1985, 1987) put forward her self-complexity model to account for differences in vulnerability to adverse life circumstances and stresses. According to this model, knowledge of the self is organised into multiple cognitive structures, or *self-aspects*, that are arranged into a larger associative network and that individuals differ in both the number and degree of distinctiveness between these structures. Accordingly, an individual is considered to have greater self-complexity when their definition of self is based on a greater number of self-aspects that are highly distinct from one another, while an individual is considered to have lower self-complexity when their definition of self is based on fewer self-aspects that are more enmeshed and poorly distinguished. The relevance this has for subjective well-being lies in what Linville (1987) calls the “Spillover Process” (p. 664); when a negative situation or event is encountered, the self-aspect that most strongly relates contextually to it becomes activated, leading to the negative cognitions and affect that have arisen as a result of that encounter to become associated with that self-aspect. Not only does this have potential negative implications for the directly-relevant self-aspect but also for others that are associated to it within the network; when closely related, the negative cognitions and affect affecting one self-aspect ‘spill over’ and impact on others, influencing the inferences the individual makes regarding their content. For the individual who is highly differentiated and therefore has greater self-complexity, a negative event occurring in one aspect of their lives is unlikely to have a significant impact on their overall well-being due to the distinctiveness of each of their numerous self-aspects inhibiting cognitive and emotional ‘spillover’. For the individual who is less differentiated and therefore has lower self-complexity, a negative event occurring in one aspect of their lives is likely to have a greater impact on their overall well-being due to having fewer less clearly defined and hence overlapping self-aspects that allow for easier cognitive and emotional spreading.

Mikulincer (1995) explored the concept of self-complexity within the context of adult attachment orientations and identified secure individuals’ self-structure to

comprise highly differentiated positive self-schema (or self-aspects), whereas anxious-ambivalent individuals' self structure was characterised by negative self-schema that were poorly differentiated and hence such individuals were suggested to have a self-representation based on only a few highly-related entangled self-attributes. Avoidant individuals meanwhile showed highly differentiated positive self-schema similar to secures but, in keeping with the notion of the maintenance of positive self-regard through defensive non-processing of negative traits, they also demonstrated low accessibility to negative self-aspects and low integration (that is, fragmented, less well-connected self-aspects).

With regards to life satisfaction, while generally having more positive relationship experiences than negative, should they arise, secure individuals' greater self-complexity should serve as a protective buffer against any negative events and situations from having a significant impact on their overall well-being. Negative emotions in response to any setback experienced should be moderate and confined to affecting the relevant aspect due to a highly distinctive associative network inhibiting negative emotional spreading into other life domains, protecting feelings of global satisfaction. With anxious individuals' lower self-complexity, fewer, less distinct self-aspects that overlap with one another result in the intense negative feelings typically experienced in response to perceived adverse situations to spread into other domains. This emotional spreading would lead not only to the affective escalation that characterises this orientation (Mikulincer & Orbach, 1995) but also to impairment to overall satisfaction due to this spillover colouring the cognitions and feelings of associated self-aspects. This becomes particularly problematic for anxious individuals' subjective well-being when one considers their propensity to interpret interpersonal interactions more negatively (Collins, 1996), to report experiencing greater levels of relationship conflict and tension (e.g., Campbell et al., 2005) and to be vulnerable and sensitive to signs of rejection (Downey, Bonica, & Rincón, 1999). For the anxious individual, the feelings of worthlessness confirmed by perceived rejection from a negative interpersonal experience is likely to spread feelings of worthlessness to other self-aspects, impacting significantly on their global satisfaction with life.

The life satisfaction profile for attachment avoidance on the basis of self-organisation is less clear-cut. As described above, avoidant individuals' level of self-complexity resembles that of secures and so the impact of negative situations on their life satisfaction should be minimal, both due to self-aspect distinctiveness preventing

spillover and also due to emotion-regulating strategies that inhibit and suppress any feelings of distress that ordinarily would arise. However, the organisation of their self-aspects is less coherent than secures, with fragmented self-aspects leaving such individuals unable to make connections between aspects and integrate them into a cohesive whole (Mikulincer, 1995). Outside the framework of attachment, cognitive fragmentation and differentiation has been identified as relating to psychological maladjustment (e.g., Bigler, Neimeyer, & Brown, 2001; Donahue, Robins, Roberts, & John, 1993) and so on this basis, avoidant individuals may have a baseline level of life satisfaction that is lower than secures but that which is less vulnerable to decrements than their high anxiety counterparts.

The above consideration of self-structure provides a possible explanation for why differences should exist in the relationships between adult attachment orientations and life satisfaction. However, to consider it as the only antecedent to this relationship would be to oversimplify the complex processes described by attachment theory, which emphasise not only differences in cognitive organisation as an instrumental influence on various well-being factors but also the differences in cognitive and affective processes that emerge as a result.

Research by Lyubormirsky, Sousa, & Dickerhoof (2006) suggests that a further possible reason for why individuals' attachment orientations have an impact on their life satisfaction could lie in attachment-related differences in cognitive and behavioural processing of negative experiences. In their article they draw attention to research finding beneficial effects of writing and talking about negative experiences (e.g., Greenberg & Stone, 1992; Murray & Segal, 1994) and adverse effects of simply thinking about such experiences (see Lyubormirsky & Tkach, 2004). They argue that the act of openly talking or writing about one's negative experiences, which requires analysis and understanding of the experience as well as labelling of emotions in order to create a narrative of it, allows for the organisation and integration of the experience, paving the way for either emotional resolution or acceptance (e.g., Pennebaker & Graybeal, 2001; Swinkels & Giuliano, 1995) and ultimately improved well-being. The act of merely thinking about one's experience meanwhile does not require the same attentional resources in creating a coherent narrative. Instead, thought is disordered without analysis or attempt to label emotions and can lead to intrusive, repetitive, and prolonged negative rumination, the effects of which can be deleterious to subjective well-being (e.g., Nolen-Hoeksema, Parker, & Larson, 1994) through prolonging

negative mood, exaggerating negative thoughts and memories, and leading to more negative expectations for the future (e.g., Lyubormirsky, Caldwell, & Nolen-Hoeksema, 1998; Lyubormirsky & Nolen-Hoeksema, 1995; Lyubormirsky & Tkach, 2004; Segerstrom, Stanton, Alden, & Shortridge, 2003). In testing the relationship between differences in processing negative experiences and life satisfaction directly, Lyubormirsky et al. (2006) found that participants who either wrote or talked about their worst life experience reported higher subsequent life satisfaction than participants who only thought about their worst experience, providing support for the contention that the active cognitive organisation afforded by putting words to thought, either in written or oral form, is instrumental in maintaining well-being.

When considering the link between adult attachment and life satisfaction on this basis, the adult attachment research discussed earlier has identified that individuals fitting a secure orientation use others as a means of attenuating feelings of distress by seeking support and disclosing their thoughts and feelings to them (e.g., Larose, et al., 1999; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Simpson et al., 1992). This open disclosure echoes that described by Lyubormirsky et al. (2006) and suggests that secure individuals' higher life satisfaction may be attributable, at least partially, by their preference for openly discussing problems, allowing for emotional resolution provided by the co-occurring analysis and enhanced understanding of their negative experience. Individuals high in anxiety have been shown to demonstrate ruminative thinking (Brown & Phillips, 2005; Saffrey & Ehrenberg, 2007), a cognitive tendency detrimental to well-being through disordered cyclic thoughts preventing emotional resolution and closure. It is through the labelling of emotions and structured analysis of events that understanding and subsequent resolution is achieved, which in turn is the predecessor to general well-being and satisfaction. With anxious individuals' thought processes tending to deny them such emotional closure, this too might partially explain why high anxiety individuals' life satisfaction is lower than their more secure counterparts'. For avoidant individuals meanwhile who are characterised by an aversion to personal disclosure as well as defensive denial of attention to sources of distress, while the non-processing could be viewed as less maladaptive than the ruminative processing strategies argued to be favoured by anxious individuals, it is itself more maladaptive than the open disclosure typically demonstrated by secure individuals. As such avoidant individuals should report life satisfaction experiences lower than secure individuals but higher than anxious individuals.

A final cognitive perspective comes from Simpson and Rholes (2004). Based on Beck's (e.g., Beck, Rush, Shaw, & Emery, 1979; Weissman & Beck, 1978) work on examining depression, Simpson and Rholes outlined a diathesis-stress process model in which two constructs were proposed as determinants of well-being: dysfunctional relationship attitudes and perceptions of relationship deprivation. They argued that individuals high in attachment anxiety may apply unrealistically high and too-stringent conditions for attaining happiness in their relationships, which reality simply cannot meet, as well as make personal well-being too heavily contingent upon actualising these conditions. With the empirical findings of anxious individuals as less willing to compromise on their partner standards (Tolmacz, 2004) and as basing much of their well-being on perceptions of relationship quality (e.g., Campbell et al., 2003) supporting this model, it would appear on this basis that such individuals are particularly susceptible to experiencing lower life satisfaction. Referring back to Shin and Johnson's (1978) emphasis on a priori chosen criteria as a comparative basis for individuals' evaluations of satisfaction with life, anxious individuals' unrealistic and too heavily depended upon standards may prevent them from experiencing the life satisfaction that others with more flexible and realistic standards are able to (i.e. secure and avoidant (Tolmacz, 2004)) due to current circumstances inevitably falling short.

In sum, the affective and cognitive processes that characterise secure attachment suggest that such individuals should experience the greatest satisfaction with life. Their positive self-regard and positive yet achievable expectations of others ensure more rewarding relationship experiences characterised by the high intimacy and independence they desire. Their self-complexity and open addressing and evaluation of any negative experiences they encounter, meanwhile, prevents exacerbation of feelings of distress both through containing the negative affective repercussions to the relevant issue and through analysis that leads to emotional resolution, allowing for the maintenance of favourable hedonic balances shown to be instrumental to subjective well-being. The high anxiety that characterises both preoccupied and fearful-avoidant attachment orientations ensures greater frequency of negative affect due to negative interpretation of interpersonal interactions and experiences, which in part may be accountable to both their hypervigilance towards signs confirming negative expectations as well as their unrealistic, inflexible, and hence unattainable relationship and partner standards. The after-effects of their negative interpretations are particularly detrimental to well-being because of both the importance they place on their relationships as well as the suggested

emotional spreading into other life domains as a result of less complex and distinctive self-representations that in turn they are cognitively ill-equipped to emotionally resolve. Lastly, the life satisfaction of individuals fitting the dismissing-avoidant attachment orientation should be lower than secure but higher than their anxious counterparts. Although they do share secure individuals' greater self-complexity, the benefits of a more complex self-representation are hindered by a fragmented structure in which there is a lack of accessibility and connections between self-aspects. Both their dismissal of the importance of interpersonal relationships to them and their cognitive denial of distress should limit the negative impact of any negative experiences on global satisfaction but similarly their dismissal should limit the emotional benefits they get out of positive experiences also. Furthermore, their suggested lack of analysing and searching for meaning of such results means they remain unresolved but, due to their defensive nature, remain outside of cognitive awareness also. This contrast from anxious individuals' ruminative tendencies that focus on negative thought should afford them more favourable hedonic balances, but only to the extent that they are characterised by a greater absence of negative affect rather than active experience of positive and so should fall short of the subjective well-being and global satisfaction experienced by secures.

Social comparison theory

A social cognitive process that has been highlighted as an important determinant of subjective well-being and global life satisfaction is that of social comparison (see Diener & Fujita, 1997). The important role comparisons play in shaping individuals' perceptions of their social realities has long been recognised within the social psychology literature (Hyman, 1942; Sherif, 1935), however, it was Festinger's (1954) seminal article in which a comprehensive theoretical framework was established that paved the way for thorough examination of the nature, function, and outcomes of comparison processes.

In his original social comparison theory, Festinger (1954) put forward that in cases of uncertainty, there exists in each individual a drive to evaluate his or her opinions and abilities. He argued that whilst the preferred sources from which to judge such attributes are those of an objective, non-social nature, when such sources are deemed unavailable, individuals will evaluate themselves by determining their relative standing in comparison to similar others. Although researchers have subsequently expanded upon these propositions by emphasising the importance of emotions in social comparison processes (e.g., Brickman & Bullman, 1977; Buunk & Ybema, 1997; Schachter, 1959;

Tesser, 1988; Wills, 1981), in the nearly six decades since Festinger's work, the basic tenets of the theory still receive empirical support.

One important advancement in early social comparison research concerning emotions was that of Schachter's (1959) work examining need for affiliation. He suggested that feelings of fear that arise from stress provoke individuals' need to affiliate with others. In testing this need, Schachter conducted an experiment in which participants were divided into one of two conditions, a high-threat condition in which fear was primed through the suggestion of receiving painful electric shocks, and a low-threat condition in which pain was downplayed. It was found that nearly two-thirds of the high-threat participants wished to wait with others for their turn to participate, while only one-third of the low-threat participants wished the same, suggesting that need for affiliation (and therefore desire for social comparison) may be a product of the uncertainty inherent in stressful situations. This study, and many more following it (e.g., Buunk, Schaufeli, & Ybema, 1994; Gerard, 1963; Gerard & Rabbie, 1961; Mills & Mintz, 1972) focused on conceptualising affiliative behaviours as intertwined with and representing social comparison processes. However research by Buunk (1995) suggests a distinction must be made. While social comparison concerns a desire to seek out information on the opinions and situation of others, affiliation suggests a desire to share one's own perspective and experiences with others in a similar position. Indeed, Hill (1987) put forward four different affiliation motivations: positive stimulation, concerning the provision of positive affective and cognitive stimulation; attention, in which self-enhancement through others' attention is the focus; emotional support; and social comparison. Although affiliation and social comparison in Buunk's (1995) study were found to be highly correlated, desire for social comparison was found to be stronger than need for affiliation, further suggesting the two processes to be related, as suggested by Hill's conceptualisation (1987), but distinct.

While Schachter's (1959) work paved the way for research considering emotional antecedents to affiliation, many more researchers have concentrated their efforts on examining the cognitive and emotional antecedents and consequences of the comparison principles explicitly detailed by Festinger (1954). Inherent in Festinger's (1954) original theory was a focus on the comparisons individuals choose to make and the individuals they choose to compare against, with little regard for instances in which situations might impose comparison information upon the individual (Wood, 1989). Subsequently, much of the early research carried out within the social comparative framework focused its

scope on this very issue (e.g., Gordon, 1966; Hakmiller, 1966; Thornton & Arrowood, 1966). For example, a common experimental methodology in early research involved rank-ordering in which participants, after having completed a particular measure such as personality (Gruder, 1971; Wheeler, 1966) or ability testing (Wheeler, Koestner, & Driver, 1982), were given the opportunity to compare their scores with others'. The general findings within this type of research is that, when given a choice, individuals will compare with others' scores that are close to, and slightly higher than, their own.

This notion of similarity (in the above studies, similarity in scores) has been challenged in recent years, with researchers questioning the ambiguity involved in determining "similarity" and the comparison targets who fall within this definition (Goethals & Darley, 1977; Suls, 1986). Drawing upon research by Kruglanski and Mayseless (1990) and Suls, Martin, and Wheeler (2000), Kaplan and Stiles (2004) highlighted that research does indeed find variability and diversity in degrees of similarity between comparison targets and those choosing to compare against them. For example, Kruglanski and Mayseless (1987) found that under conditions of fear of invalidity, individuals tended to compare more with disagreeing, and hence dissimilar, others. Goethals and Nelson (1973) also found a preference for dissimilar others when seeking targets to compare against judgments of students' academic success. However, while these studies suggest that dissimilar others may serve as sources of comparative information, there does appear to be a cut-off point. Highlighting Festinger's (1954) postulations that extremely dissimilar others are incomparable because the traits under scrutiny differ to the extent of making any comparisons meaningless, Mettee and Riskind (1974) found that promoting an initially comparable target to a higher, incomparable level of ability removed them as a comparison target and hence removed them as a threat to the self, increasing their likeability in doing so. However, it appears even extremely dissimilar others who exemplify desirable characteristics and demonstrate enviable success can serve as comparison targets when the factor of relevance is considered. Lockwood and Kunda (1997) found that high achieving others induced inspiration when achievements were deemed self-relevant and attainable and led to self-deflation when achievements appeared unattainable. This would appear to suggest that even others who on the surface seem dissimilar can be cognitively interpreted by the comparer as having qualities that can establish a connection of similarity of some kind. Furthermore, research by Brown, Novick, Lord, and Richards (1992) suggests that dissimilarity does not hinder comparisons but rather changes their

nature, such that dissimilarity may bring about contrastive comparisons whereas similarity may bring identification.

Social comparison motivations

In sum, the above findings suggest that individuals are not purely passive victims of imposing comparison information, nor subject to rigid and inflexible comparison norms, but rather that a number of motivational factors can drive comparison behaviours. Festinger (1954) characterised individuals as driven by a desire for accuracy in the comparisons they make, emphasising awareness of potential negative consequences of holding inaccurate opinions and appraisals as motivation. However, research subsequent to his postulations, including those discussed above, has suggested further motives behind comparison choices. Thornton and Arrowood (1966) put forward two different motives to guide individuals' comparisons, self-evaluation and self-enhancement, while a third, self-improvement, has also been considered (see Wood, 1989). Self-evaluation captures that which was described by Festinger (1954) such that accurate appraisal is key and positive, similar examples of those who exemplify the trait under evaluation are sought as comparison targets (Suls & Wheeler, 2000). Self-improvement meanwhile suggests desire to seek information that will enable progression to a higher level of competency or ability; here, ideal targets for comparison should be those that are deemed superior to the self that may serve as reference point to aim for. Lastly, self-enhancement describes the motive of maintaining and enhancing favourable self-views as influencing comparison choices and suggests individuals to be selective in choosing comparison targets that are most suited to improve feelings of self-esteem (see Wood, 1989). This self-enhancing tendency was exemplified in particular by an early study carried out by Hakmiller (1966) in which participants who were given false feedback suggesting them to be highly hostile towards their parents chose to compare themselves with others they believed to have received feedback indicating greater hostility than their own. More recently, research by Pyszczynski, Greenberg, and La Prelle (1985) identified that in addition to self-enhancement motives, expectancy outcomes also influence individuals' comparison behaviours. In their study examining responses to social sensitivity test feedback, Pyszczynski and colleagues found individuals demonstrated greater interest in comparison information if others were anticipated to have performed poorly on a task whereas they demonstrated little to no interest if others were expected to have performed well.

This latter motive of self-enhancement formed the basis of Wills' (1981) influential downward comparison theory, which suggested that individuals can increase their subjective well-being through comparisons with perceived less fortunate others. Wills further suggested that since individuals either temporarily or chronically low in self-esteem would be in the greatest need of self-enhancement, such individuals would be more likely to use downward comparisons to increase well-being. This work was an important advancement in social comparison research, as by highlighting the importance of individual differences in social comparison tendencies, it hinted at a more complex process than that first put forward by Festinger (1954). Furthermore, this article marked the departure of examining the tenets of Festinger's classic self-evaluation motive in which accurate self-appraisal was key, to what Wheeler (1991) termed "neo-social comparison theory" in which self-enhancement and its emotional sequelae were the focus.

Although early research revealed some findings in support of Wills' downward comparison theory (e.g., Friend & Gilbert, 1973; Wilson & Benner, 1971), so too is there more recent evidence incongruent with its postulates. The findings from this research would appear more in line with the selective affect-cognition priming model (Bower, 1991; Forgas, Bower, & Moylan, 1990). Similar in principle to Beck's (1967, 1976) cognitive model of depression, this theory suggests that, such is their maladaptive cognitive bias, individuals low in subjective well-being and with negative self-perceptions will make upward comparisons, that is, comparisons to perceived better-off others, reinforcing their feelings of inferiority. In their diary study examining individuals' naturalistic social comparisons, Wheeler and Miyake (1992) found that it was individuals high in self-esteem who were more likely to make downward comparisons rather than those low in self-esteem. Similar to this, Miyake (1993), as cited by Wheeler (2000) found low self-esteem individuals to make more upward comparisons. In Vohs and Heatherton's (2004) study, when participants' self-image was under threat, those with low trait self-esteem made more upward comparisons, while those with high trait self-esteem made more downward social comparisons. Similar support comes from studies examining the impact of mood on comparison choices. For example, Wood, Michela, and Giordano (2000) found that individuals experiencing sad moods demonstrated an upward comparison bias (the affective and cognitive consequences of which would serve to prolong and maintain negative mood) but when

feeling happier demonstrated a tendency toward downward comparison (permitting the maintenance of positive affect and evaluation).

Social comparison outcomes

While the above research has focused on comparison choices, an area of research that has emerged in more recent years is that of examining individuals' affective and cognitive-evaluative responses to social comparison information imposed on them by situational factors. Although studies looking at comparison choices have also looked into the affective and cognitive consequences of social comparisons (e.g., Olson & Evans, 1999; van der Zee et al., 1998; Wheeler & Miyake, 1992), the primary focus of research investigating involuntary comparisons is specifically that of how individuals react to such information. Much research within this field contends and finds evidence to suggest that when comparing to perceived better-off others, individuals' self-evaluations and subjective well-being decrease (Diener & Fujita, 1997; Gibbons, 1986; Smith & Insko, 1987; Taylor, Buunk, & Aspinwall, 1990; Tesser, 1988; Wood, Taylor, & Lichtman, 1985). For example, highlighting the cognitive responses to social comparison information, a particularly notable study carried out by Morse and Gergen (1970) found that individuals encountering a well-dressed and organised applicant interviewing for the same job reported decreased self-esteem, whereas individuals encountering a job applicant who was poorly dressed and disorganised reported increased self-esteem. Similarly, Marsh and Parker (1984) found that children in high-ability schools tended to have lower self-esteem than those in low-ability schools. In examining the affective consequences of social comparisons, meanwhile, research generally finds upward comparisons to increase negative mood and to decrease positive (e.g., Buunk, van der Zee, VanYperen, & Nico, 2001; Olson & Evans, 1999). Highlighting that the negative consequences of upward comparisons are not limited to declines in affective well-being but can influence behaviour, Salovey and Rodin (1984) found individuals who received negative feedback on a personality test not only experienced feelings of jealousy and negative mood in response to hearing of another's success, but also denigrated them and reported little desire for friendship with them. Tesser and Smith (1980) found that under conditions of high relevance, individuals gave competitors harder clues for a word-identification task when they had been outperformed by them, while Klein (2003) found individuals were more likely to help others upon receiving feedback that was more positive compared to others'.

Implicit in the conclusions from the above studies of negative consequences of upward and positive consequences of downward comparisons is that individuals will primarily contrast themselves from others. By contrasting from perceived worse-off others, individuals come to see themselves as superior, and by contrasting themselves from perceived better-off others, individuals will come to see themselves as inferior, resulting in the reported respective positive and negative outcomes. However, as suggested by some of the inconsistencies reported in aforementioned studies, evidence frequently emerges to challenge this assumption, suggesting that the affective, evaluative, and behavioural consequences of social comparison information are not intrinsic outcomes restricted to resulting from either a single upward or downward direction but rather that both upward and downward comparisons can each produce positive and negative affective and evaluative responses. Buunk, Collins, Taylor, VanYperen, and Dakof (1990) examined cancer patients' comparisons and found upward comparisons (in this instance, comparisons to other cancer patients whose health would be perceived as being better than their own) evoked positive affect nearly as often as downward comparisons. Proposed by the authors as potentially indicating upward comparison targets to be an encouraging and inspiring example in stressful situations, this finding suggests that the assumption of contrastive processes as default in individuals' comparisons may be overly simplistic.

Building upon Buunk et al.'s (1990) study, plus propositions put forward by Mettee and Smith (1977), Brickman and Bullman (1977), Taylor and Lobel (1989), Tesser (1988) and Heider (1958), Buunk and Ybema (1997) put forward their identification-contrast model. According to this model, individuals are motivated to identify with others perceived as being in a better position than they are and so focus on the similarities that may suggest their elevated position to be attainable. In keeping with Gilbert and colleagues' (Gilbert, 1990; Gilbert, Price, & Allan, 1995) thinking, they argued this upward identification to be an adaptive phylogenetic disposition that allowed for appraisal of one's competitors with the aim of reaching a higher social standing and ultimately social prestige. In addition to upward identification, Buunk and Ybema (1997) also suggested that individuals are motivated to avoid identifying with those perceived as being in a worse position than their own and so contrast themselves from them, focusing on their differences instead. However, implied in their model is that there is potential for individuals to identify with downward targets or to find themselves contrasting from upward targets. Indeed, Buunk and Ybema (1997) highlight research

that is suggestive of this pattern (e.g., Swallow & Kuiper, 1987; van der Zee et al., 1998). Should they occur, downward identification and upward contrast should produce negative evaluations and affect, while identification with upward targets and contrasting from downward targets should evoke positive evaluations and affect. While not directly testing these contentions, research supporting this line of thought is plentiful (Brown et al., 1992; Buunk et al., 1990; Cash, Cash, & Butters, 1983; Collins, 1996; Lockwood & Kunda, 1997; Ybema & Buunk, 1995).

Individual differences in social comparison

As suggested by Wills' (1981) downward comparison theory and Bower and colleagues' selective affect-cognition priming model (Bower, 1991; Forgas et al., 1990), social comparison processes are not universal and invariable but, as with most psychological processes, are subject to deviation on the basis of individual differences. Central to both propositions is self-esteem and so as would be expected, a considerable body of research has emerged investigating this very issue (see Buunk & Mussweiler, 2001, and Wheeler, 2000). As discussed earlier, consistent with the affect-cognition priming model, individuals with low self-esteem have more often been found to make more upward comparisons than downward compared to their high self-esteem counterparts (e.g., Wheeler & Miyake, 1992). However, self-enhancing strategies in low self-esteem individuals have been identified; Wood, Giordano-Beech, Taylor, Michela, & Gaus (1994) found evidence to suggest that low self-esteem individuals can engage in self-enhancing social comparisons without experimental provocation, but, importantly, only when circumstances have provided them with enough confidence that doing so is psychologically "safe" with little risk of negative consequences. In their study, psychological "safety" was provided through feedback suggesting their greater potential for career success than others and led to low self-esteem individuals to make a greater number of social comparisons compared to those reporting higher self-esteem. This suggests that low self-esteem individuals are capable of employing self-enhancing comparison tactics but also accounts for why studies generally don't find evidence of this motive; low self-esteem individuals' goals of self-protection against undesirable outcomes outweigh their desire for gains in self-esteem (Wood et al., 1994) and might prevent them from making self-enhancing comparisons in more naturalistic contexts because the uncertainty inherent in reality leaves the probability of attaining desired favourable outcomes questionable. In sum, individuals with low self-esteem tend to focus on better-off others, as evidenced by their reports of more often making upward

comparisons, which in turn should reinforce unfavourable self-evaluations due to their own traits under scrutiny falling short of their comparison targets'. Their ability to use self-enhancing comparisons, meanwhile, is undermined by their focus on self-protection and so while there may be opportunities to increase feelings of self-esteem, their anticipation of negative outcomes prevents them from doing so. With regards to the affective consequences of social comparison, Giordano and Wood (as cited in Wheeler, 2000) found that low self-esteem individuals responded with more negative affect to upward comparisons than their higher self-esteem counterparts. However, research by Aspinwall and Taylor (1993) suggests low self-esteem individuals *can* benefit when confronted with downward comparison information. In their study examining the impact of naturalistic threats on social comparisons, they found that low self-esteem individuals who had experienced an academic setback responded well to exposure to downward comparison information, reporting better self-adjustment and more positive future expectations. However, the aforementioned research that suggests a focus on upward comparison information (see Wheeler, 2000) means that low self-esteem individuals may deny themselves access to this source of self-enhancing information. Taken together, research appears to suggest that low self-esteem individuals are characterised by unfavourable social comparison tendencies resulting from a maladaptive cognitive bias that serves to perpetuate negative feelings towards the self.

Another individual difference to have received empirical attention includes Costa and McCrae's (1992) Big Five personality factors. Olson and Evans (1999) found extraversion predicted greater frequency of downward comparisons while openness and agreeableness were both found to predict a greater frequency of upward comparisons. Contrary to predictions, neuroticism did not predict comparison direction but analyses did show a higher score to predict a greater increase in positive affect after having made a downward comparison. Using Eysenck's (1970) personality dimensions, however, VanderZee et al. (1996), were able to identify neuroticism as a predictor of upward comparison, as well as a greater need to make comparisons generally. Furthermore, VanderZee, et al. (1996) found individuals with greater neuroticism scores to respond less positively to upward comparison information, suggesting they were less able to identify with those perceived as being in better health. The discrepancy of findings in these studies may be attributable to their differing contexts, with the former examining general comparisons using a university student participant sample (and therefore representing a low-threat and stress context), and the latter two examining comparisons

within a higher-threat cancer patient participant sample. Furthermore, differences in methodology (experimental versus naturalistic event-contingent) must also be considered as a potential cause of this discrepancy.

Other individual differences include narcissism (Bogart, Benotsch, & Pavlovic, 2004), agentic and communal dispositions (Locke, 2003, 2005; Locke & Nekich, 2000), and anxiety, depression, and other maladaptive affective traits and disorders (e.g., Antony, Rowa, & Liss, 2005; Butzer & Kuiper, 2006; Weary, Marsh, & McCormick, 1994). One in particular to have received a great deal of empirical attention, however, is Gibbons and Buunk's (1999) social comparison orientation. In their original article conceptualising this orientation, they noted that the individual differences found to be associated with social comparison factors were those that tended to indicate uncertainty about the self. For example, Campbell (1990) found low self-esteem individuals to be characterised by a poorer self-clarity and self-certainty vulnerable to instability over time, as well as demonstrating less confidence in making applicability judgments of self-descriptive characteristics. This uncertainty is similarly found in those with depression (e.g., Weary et al., 1994) and individuals scoring high in neuroticism (e.g., Van Der Zee et al., 1998). On this basis Gibbons and Buunk (1999) created a measure to assess comparison tendency as a personality disposition, with higher scores suggesting a greater propensity towards making comparisons and lower scores indicating the opposite trend. They found their measure – the Iowa-Netherlands Comparison Orientation Measure – to correlate with interpersonal orientation (Swap & Rubin, 1983), self-consciousness (Fenigstein, Scheier, & Buss, 1975), communal orientation (Clark, Ouellette, Powell, & Milberg, 1987), anxiety (Fenigstein et al., 1975; Spielberger, Gorsuch, & Lushene, 1970), depression (e.g., Radloff, 1977), self-esteem (Rosenberg, 1965) and neuroticism (Hendriks, 1997; Luteyn, Stearren, & VanDijk, 1985) among others and concluded an individual with a high social comparison orientation to be interpersonally oriented and sensitive to the behaviour of others with a certain level of self-uncertainty and a motivation to reduce it. Buunk and Mussweiler (2001) further define individuals high in social comparison orientation (SCO) as tending to relate their own circumstances to others' and to be interested in gathering information about their thoughts and behaviours, while Buunk, Ybema, Gibbons, & Ipenberg (2001) emphasize high SCO individuals' interest in basing their cognitive evaluations of self-traits on how they compare with others'.

A number of studies have examined differences in comparison behaviours on the basis of social comparison orientation. For example, Gibbons and Buunk (1999) found that individuals scoring high in social comparison orientation had a greater desire to look at participants' scores on a test they themselves had completed and also to discuss their performance with participants they had been partnered with. In examining affective outcomes of social comparison, Buunk et al. (2001) found that individuals scoring high in social comparison orientation experienced more negative affect after encountering a downward comparison target, while Buunk et al. (1998, as cited in Gibbons & Buunk, 1999) found that nurses scoring high in both social comparison orientation and professional burnout (that is, exhaustion, reduced perception of personal accomplishment, and depersonalised feelings and behaviours towards patients (Buunk et al., 2001)) experienced the most negative mood when confronted with a downward comparison target. Buunk and Brenninkmeijer (2001) meanwhile examined affective differences to comparison information across social comparison orientation and depression. They found that when presented with a bogus interview in which an individual described overcoming their depression through high-effort on their part, nondepressed high SCO individuals reacted with less negative mood change than those lower in SCO, but reacted with more negative mood change when presented with an individual overcoming their depression with low effort. In contrast, among the depressed, the higher individuals scored in social comparison orientation, the more positively their mood changed in response to a low-effort interviewee and the less positively their mood changed in response to one describing high effort. Buunk and Brenninkmeijer state that high SCO individuals tend to "relate their own situation to the situation of others, even when these others may at first sign not seem very similar to them" (p. 539). Among the depressed, they argued that hearing of another's experience in which they had put effort into overcoming their depression would be daunting due to the feelings of defeat and hopelessness characterised by their affective disorder. However, among the nondepressed, their tendency to relate others' situations to their own (in spite of their dissimilarity) might make them see the interviewee's situation as something they themselves might encounter and so hearing that overcoming depression concerns an element of controllability on their part might account for their less negative mood change.

Social comparison and adult attachment

In sum, the above findings suggest that social comparison orientation is an important individual difference to consider when examining individuals' comparison choices as well as their cognitive and affective responses when presented with such information. However, an individual difference largely ignored within the social comparison literature is that of adult attachment orientation. This gap is surprising given the interpersonal focus of both theories in which perceptions of self and other are central to the processes described by each. Indeed, there is much in attachment theory that suggests individuals' social comparison tendencies should deviate on this basis. Findings by Mikulincer et al. (1998), for example, are indicative of adult attachment as instrumental in individuals' evaluations of their degrees of similarity to others, with attachment anxiety found to relate to overestimation of self-other similarity and attachment avoidance found to relate to underestimation.

From the above review, there are three main distinguishable aspects of social comparison that may deviate on the basis of adult attachment orientation: that of propensity to engage in comparison; that of the nature of comparisons made; and that of the affective and cognitive reactions to comparison information.

Comparison tendency. Returning to Gibbons and Buunk's (1999) discussion, one of the defining characteristics of a greater propensity towards social comparison is that of an interpersonal orientation. Specifically, it is the individual who has a strong interest in the thoughts and feelings of others, who is influenced by others' moods and opinions of them, and has a greater interest in mutual self-disclosure, who would be expected to make a greater number of comparisons and be most cognitively and affectively influenced by the information garnered in this way (see Buunk & Gibbons, 2006). On this basis, one would expect individuals low in attachment avoidance, that is, preoccupied and secure, to demonstrate a greater orientation and receptivity towards social comparison information than those high in avoidance. Both secure and preoccupied individuals are characterised by comfort with, and desire for, intimacy in their relationships (Pietromonaco & Feldman Barrett, 2000; Bartholomew & Horowitz, 1991), and demonstrate affiliative behaviours through disclosing thoughts and feelings to others while similarly feeling comfortable with others' self-disclosure to them (Mikulincer & Nachshon, 1991; Pistle, 1993). However, with regards to interpersonal orientation, there is an important difference between these two attachment classifications that should suggest a differentiation in social comparison orientations and that is their differing levels of anxiety. Indeed, preoccupied individuals should demonstrate a greater

interest in social comparison on the basis of their high anxiety; by their very nature, they place greater importance on both the quality of their relationships and their acceptance by others than secure individuals, manifesting as chronic vigilance in attention towards the availability of positively-viewed others from whom they seek the validation of self that they themselves cannot achieve autonomously. Relevant to this, Buunk and Gibbons (2006) further suggest that individuals high in social comparison orientation may be higher also in their levels of conformity (as indicated by low scores on Big Five trait openness to experience). For the preoccupied individual who desires acceptance by others, similarity of opinions, thoughts, and behaviours may indicate a potential avenue towards such approval; social comparison may therefore reflect a cognitive strategy in which relative standing is examined to determine conformity to social group norms and ultimately the possibility of the acceptance they strive for.

There are further reasons, however, to believe preoccupied individuals should demonstrate a greater social comparison orientation than their secure and avoidant counterparts. While the above concentrates on interpersonal factors, cognitive self-structure and perceptions might additionally provide theoretical support for this proposed relationship. In addition to interpersonal orientation, Gibbons and Buunk (1999) highlighted self-uncertainty as characteristic of those with an interest in social comparison. Indeed, uncertainty was a social comparison prerequisite defined by Festinger (1954) himself; in his original article he asserted that it is under such conditions of uncertainty specifically that the drive for comparing with others arises. For individuals who have a less clear and certain sense of self, the need for clarity on opinions and abilities is greater than for the individuals whose self-identities are more concrete. As discussed earlier, individuals high in attachment anxiety have been found to have less clearly defined self-structures that are characterised by negative, poorly differentiated, and overlapping self-schema (Mikulincer, 1995). More recent research has found further evidence to support this (Wu, 2009), identifying that anxious attachment tendencies were negatively related with self-certainty and self-concept clarity. Such individuals should therefore be prone to making social comparisons and basing self-evaluations on the information gleaned this way.

A further perspective comes from Stapel and Tesser's (2001) article on self-activation. Drawing upon self-awareness and identity research in which activation of self-constructs has been found to lead to increased cognisance of social norms (e.g., Carver & Scheier, 1981; Duval & Wicklund, 1972; Gibbons, 1990; Higgins, 1996) and

that self-descriptions often include self-other differentiation (e.g., McGuire & McGuire, 1988), Stapel and Tesser put forward their self-activation hypothesis. According to their hypothesis, the goal of social comparison is to acquire information about the self and therefore desire to engage in social comparison should be greater when self-related cognitions are activated and more salient to the individual. As such, comparison information is more greatly sought after and attended to during instances of heightened self-awareness. Across five studies, Stapel and Tesser were able to identify that: individuals who demonstrated greater self-activation (as identified through performance on a first-person pronoun identification task) scored higher in social comparison orientation; that thinking about the self (through listing self-descriptive and defining characteristics) led to a higher social comparison orientation score; and that self-activation impacted on social comparison scores independent of self-uncertainty, supporting its importance as a comparison antecedent. With regards to adult attachment, as earlier discussed, individuals high in anxiety are described as having hyperactivated attachment systems (Cassidy & Kobak, 1988) in which models of self and other are chronically accessible. This continual vigilance towards others as relating to an ever cognisant self echoes the activation described by Stapel and Tesser (2001), as well as the greater awareness of self in the presence of others described by Buunk and Gibbons (2006) and suggests that highly anxious individuals (preoccupied and, to a lesser extent, fearful-avoidant) may predispose themselves, through their hyperactivation, to drawing comparisons between themselves and others in their social environments.

Interestingly, Stapel and Tesser (2001) also reported that lesser interest in social comparison was observed for participants with low levels of self-activation. This finding may provide a basis, in addition to lower interpersonal orientation, for predicting dismissing-avoidant individuals' comparison orientations. With their highly-differentiated, multi-faceted, and distinct self-schema suggesting a high level of self-clarity (Mikulincer, 1995), and their deactivating strategy of inhibition and defensive denial of attachment working models of self and other (Cassidy & Kobak, 1988) paralleling the low self-activation described by Stapel and Tesser (2001), dismissing-avoidant individuals should show little orientation towards social comparison.

Taken together, with their high anxiety and low avoidance, individuals with a preoccupied attachment classification should demonstrate the greatest social comparison orientation. Their less-clear and negative self-schema suggest that not only may they perceive themselves as having a greater need for attaining clarity in self-evaluation, but

their chronic self-activation should provide greater opportunity for social comparisons to arise. Furthermore, their strong interpersonal orientation and desire for acceptance should increase their interest in considering their standing on opinions, feelings, and abilities relative to others. Although fearful individuals report similarly high anxiety, their higher level of attachment avoidance suggests a lesser interpersonal orientation than their preoccupied counterparts; their anxiety manifests not as the affiliative, intimacy- and acceptance-seeking behaviours of preoccupied individuals but as a self-protective emotional distancing which may inhibit, though not entirely prevent, others from being used as a viable source of comparative self-evaluation. Secure individuals meanwhile should demonstrate a lower social comparison orientation compared to their high anxiety counterparts. Although they share preoccupied individuals' interpersonal orientation, their greater self-certainty and higher self-activation threshold should provide fewer circumstances in which they need to compare with others. Lastly, with their low anxiety and high avoidance prescribing low interpersonal orientation, increased self-certainty, and decreased self-activation, dismissing-avoidant individuals should be the least interested in and susceptible to engaging in social comparisons.

Comparison direction and identification/contrast. In reviewing the social comparison literature examining individuals' differences in comparison direction, the research supporting Bower and colleagues' (Bower, 1991; Forgas et al., 1990) selective affect-cognition priming model outweighs that supporting Wills' (1981) downward comparison theory. That is, individuals low in subjective well-being, either through negative self-perceptions or chronic decreased mood, are characterised by maladaptive comparison habits that reinforce self-negativity. Specifically, such individuals report making a greater number of upward comparisons to perceived better-off others than downward comparisons to perceived worse-off others. Indeed, a number of individual difference variables that encapsulate negative self-perceptions, such as low self-esteem, depression, and neuroticism identify this very relationship. One of the fundamental tenets of attachment theory concerns the perceptions of self and other captured by Bowlby's (1969, 1973, 1980) conceptualisation of internal working models. To recapitulate, individuals' working models of self (that is, feelings of worth and lovability) and models of other (anticipated responsiveness and acceptance by others) deviate on the nature of attachment-related experiences in infancy and childhood and determine feelings of anxiety and avoidance as well as the positivity and negativity of self-other cognitions. Relating to social comparison theory, with their negative models

of self, both preoccupied and fearful-avoidant individuals should demonstrate an upward-comparison tendency, while with their more positive models of self, secure and dismissing-avoidant individuals should demonstrate the opposite trend, thus maintaining their respective negative and positive self-perceptions. This notion of self-consistency maintenance, be it positive or negative, is one that has been previously addressed within the adult attachment literature. For example, in their review of partner preference on the basis of attachment orientation, Holmes and Johnson (2009b) found that in studies examining actual partner matching (e.g., Collins, Cooper, Albino, & Allard, 2002; Collins & Read, 1990; Kirkpatrick & Davis, 1994; Simpson, 1990), as opposed to those examining attraction to hypothetical partners (e.g., Baldwin et al, 1996; Chappell & Davis, 1998; Frazier, Byer, Fischer, Wright, & DeBord, 1996; Klohnen & Luo, 2003; Latty-Mann & Davis, 1996), patterns of complementarity emerged. That is, individuals were found to be matched with partners whose attachment orientations confirmed their attachment-related expectations. In the case of anxious individuals, avoidant partners confirm negative expectations of others as distant with limited responsiveness to attachment needs. For avoidant individuals, meanwhile, anxious partners confirm expectations of others as clingy and overly-dependent. Suggested to be in keeping with self-consistency theory (Snyder & Swann, 1978; Swann, 1983; Swann & Read, 1981), which describes individuals to have a strong desire to maintain a consistent social reality and self-image, individuals' observed tendencies to remain in relationships that may be detrimental to well-being was suggested to be attributable to the psychological safety found in predictable interpersonal experiences. Although this perspective differs from the selective affect-cognition priming model to the extent that the former comprises an element of controllability on the individual's part rather than the vulnerability to a self-disserving and automatic cognitive bias encapsulated by the latter, both emphasise a proclivity for consistency in self-perceptions and suggest anxious individuals may more frequently compare upward while non-anxious individuals may more frequently compare downward.

Comparison outcomes. The final aspect to be considered within the framework of attachment theory is that of affective outcomes to social comparison information. As highlighted earlier, research generally finds that comparison with upward targets produces an increase in negative affect, while comparison with downward targets produces an increase in positive (e.g., Buunk et al., 2001; Olson & Evans, 1999). Suggesting contrastive processes to be taking place, these changes in mood are

described as being a product of, and therefore representing, comparison-induced self-evaluations: when the comparison other is perceived as inferior to the individual, favourable self-evaluations and affect emerge; when the comparison is perceived as superior, unfavourable evaluations and affective reactions emerge.

As reviewed earlier, individuals with differing attachment orientations have affective profiles that differ greatly from one another. With their moderate affective reactivity, individuals with secure attachment orientations experience both positive and negative affect, but without the latter escalating beyond easy resolution. Although such individuals would not be expected to engage in social comparisons as frequently as their high-anxiety counterparts, when faced with upward comparison targets that have the potential to be detrimental to subjective well-being, secure individuals' positive models of self in which validation of self is achieved and maintained autonomously should serve as a cognitive buffer against such adverse comparison information influencing their self-evaluations and should therefore limit its negative affective impact. Conversely, when downward comparisons are made, secure individuals may experience an increase in positive affect but only to a moderate extent due to such information being consistent with the positive view of self already held. Individuals high in attachment anxiety, meanwhile, should be characterised by more intense affective responses due to comparison information being given greater weight in self-evaluation and due to the affective escalation that is said to characterise such individuals. With their greater self-uncertainty also this too should produce a greater vulnerability to the information gathered from social comparisons and as such would similarly produce a greater affective reaction. For individuals high in attachment avoidance, affective reactions to social comparisons made would be expected to be minimal. The greater self-certainty and therefore lesser reliance on others, as well as defensive denial of affective attention would see reactions to social comparison information be cognitively inhibited and therefore produce limited responsiveness.

To date, no study has examined the relationship between adult attachment and social comparison orientation, comparison direction tendencies, or affective outcomes. The scant research conducted thus far has focused on differences in the nature of self-other comparative similarity across attachment rather than the three aspects listed above per se. In examining differences in contrast and assimilation of traits and attributes, Gabriel, Carvello, Dean, Tippin, and Renaud (2005) predicted that, due to high intimacy goals, non-avoidant individuals (that is, secure and preoccupied) should perceive

themselves as more similar to relationship partners over time and that, due to low intimacy goals, avoidant individuals (dismissing and fearful) should perceive themselves as less similar. Their findings supported these hypotheses, suggesting individuals high in avoidance may contrast from others as an additional method of maintaining psychological distance from them, while individuals low in avoidance may identify with others to establish an emotional connection through similarity. In their study examining social rank systems, Irons and Gilbert (2005) found secure adolescents to rate themselves as neither superior nor inferior in comparison to others, but identified the surprising finding that, while they reported greater submissiveness, anxious-ambivalent adolescents were similar to secure adolescents rather than reporting themselves as inferior. Instead, it was avoidant adolescents who rated themselves as inferior to others. Further found in this study, however, was that for both insecure attachment styles, the social rank variables of social comparison and submissive behaviour mediated the relationship between adolescents' attachment insecurity and well-being factors depression and anxiety, suggesting that insecure individuals may be predisposed to viewing their social world as competitive and their position within it as being inferior to their peers'. However, not all studies examining adult attachment and social comparison have found associations; while Schwartz, Lindley, & Buboltz Jr (2007) found associations between attachment and the affiliation factors of emotional support, attention, and positive stimulation, they found none for social comparison. Gilbert, McEwan, Hay, Irons, and Cheung (2007) reported similarly in their study examining social rank evaluations across individuals with bipolar disorder.

Relationships and social comparison

On the basis of the above studies, despite solid theoretical grounding, there seems to be inconsistent support for adult attachment as predictor of social comparison orientation, with the findings of research that has found associations to paint an unclear picture. However, Smith LeBeau & Buckingham (2008) examined social comparisons within a romantic relationship context and found strong evidence to suggest adult attachment should be afforded greater empirical examination. Specifically, they found attachment anxiety and to a lesser extent attachment avoidance to both be positively correlated with relationship social comparison orientation (an individual difference similar in principle to Gibbons and Buunk's (1999) measure of general comparison orientation but with a focus on interpersonal relationships only) and that such an orientation leads to increases in relationship insecurity, which in turn leads to decreases

in relationship satisfaction over time. Outside the framework of attachment, the issue of comparisons both within and across relationships, and the effects therein, is one that has been examined extensively within the social comparison literature. Research has focused on the evaluative and affective consequences of social comparisons in several domains, such as academic and occupational issues (Aspinwall & Taylor, 1993; Buunk et al., 2001; Lockwood & Kunda, 1997), possessions (Ogden & Venkat, 2001), social life (Buunk, Groothof, & Siero, 1997), physical attractiveness (Brown et al., 1992; Cash et al., 1983; Patrick, Neighbours, & Knee, 2004; Trampe, Stapel, & Siero, 2007; van den Berg & Thompson, 2007), and health (Buunk et al., 1990; Taylor & Lobel, 1989; Van der Zee et al., 1998; Ybema & Buunk, 1995), but the research domain of romantic relationships is one that has been the focus of much work. Indeed, research has demonstrated that individuals often perceive their romantic relationships to be an extension of the self (Aron, Aron, Tudor, & Nelson, 1991) and play a fundamental role in determining well-being (Campbell, Converse, & Rodgers, 1976; Demir, 2008; Diener, Gohm, Suh, & Oishi, 2000; Gove, Hughes, & Style, 1983; Lee, Seccombe, & Shehan, 1991; Waite, 1995) and so it logically follows that such an issue should be subject to thorough empirical examination.

Studies showing that individuals use social comparisons to evaluate both their relationship standards and relationship quality are rife (e.g., Surra & Milardo, 1991; Wayment, 2005; Wayment & Campbell, 2000). For example, proposing that speaking with others about marriage might “influence the marital reality” (p. 410) for couples, an early study carried out by Titus (1980) found that a third of men and nearly two-thirds of women in her sample discussed their marriage in a comparative manner, as well as finding that in over half the couples included in the study, at least one member of each made comparisons.

The research on comparisons within an interpersonal context can be divided into two areas, those of studies examining *relational* comparison processes and outcomes (that is, comparisons within relationships), and those of studies examining *referential* comparisons (whereby others’ relationships are used as a reference point for evaluation). Within relationships, comparison issues of social exchange and equality, as well as performance, predominate (e.g., Buunk, Klewer, Schuurman, & Siero, 2000; Buunk & VanYperen, 1991; see VanYperen & Buunk, 1994 for review). In performance research, Tesser and colleagues (e.g., Beach et al., 1998; Tesser, Millar & Moore, 1988) consistently find that outperformance by a significant other on a self-relevant task

represents a threat to self-evaluation while outperformance on a self-irrelevant task is beneficial. In issues of social exchange and equality, Buunk and VanYperen (1989) examined relationship input across gender and found that women reported feeling deprived while men reported feeling advantaged, suggesting that the comparisons couple members make within their relationships reflect general perceptions of greater female input than male. The differences in relationship satisfaction that also emerged in their study, such that men who perceived equality reported higher satisfaction than those who reported inequality of any kind while women who perceived equality reported higher satisfaction than those who felt deprived only, emphasises the importance of comparison processes in determining perceptions of relationship quality and resultant well-being.

In examining general referential relationship perceptions (that is, examination across relationships), research has found a tendency for individuals to perceive their relationship as better than most others' (Buunk, 2001; Buunk, Oldersma, & de Dreu, 2001; Buunk & van der Eijnden, 1997; Van Lange & Rusbult, 1995; Van Lange, Rusbult, Semin-Goossens, Görts, & Stalpers, 1999). Indeed, much relationship research finds that individuals are highly motivated to see both their partners and relationships as positively as possible, sometimes to the extent of idealisation (e.g., Bradbury & Fincham, 1990; Hall & Taylor, 1976; Murray, Holmes, & Griffin, 1996a, 1996b; Rusbult, Van Lange, Wildschut, Yovetich, & Verette, 2000). Said to serve the function of increasing individuals' confidence in their commitment to their relationship, particularly in times of uncertainty and doubt, such beliefs have been associated with relationship satisfaction and well being (Murry et al., 1996a, 1996b) and have been found to predict relationship longevity (Rusbult et al., 2000). However, this research on perceived superiority speaks of general comparisons against 'most others' or of 'the typical adult'; while informative, it is beneficial to consider comparison behaviours towards 'actual' others in which others' relationships are a target for specific comparison.

In their study investigating affiliative tendencies, Buunk, VanYperen, Taylor, and Collins (1991) found that greater marital dissatisfaction and uncertainty was associated with greater desire to affiliate with others. They further identified that those with the greatest marital dissatisfaction demonstrated upward affiliative choices. Similar in principle to Buunk et al.'s (1990) study in which cancer patients were found to benefit from upward comparisons, it may be that for couple members under the stress caused by perceived marital problems, speaking with others about their issues could be viewed as

providing opportunity to increase feelings of relationship-improving efficacy through sharing their marriage experiences with others' deemed to be functioning more desirably. Also focusing on perceived marital problems, Frye and Karney (2002) found strategic differences in social comparison cognitions. In keeping with research reporting general perceived superiority, they found a tendency for individuals to perceive their relationship as better than others'. Furthermore, highlighting that motivations drive individuals' comparison tendencies, they reported that individuals in their sample engaged in more favourable temporal comparisons (that is, comparing current situation to past and projected future situations) with regards to more severe and threatening relationship problems. In their study investigating the impact of marital dissatisfaction and uncertainty on affective responses to upward and downward comparisons, Buunk et al. (1990) found that the greater the marital dissatisfaction, the more often individuals felt worse after making a comparison, irrespective of its direction. While greater marital uncertainty also led to negative affect after downward comparison, upward comparison had an even greater negative impact on affect, suggesting that mere exposure to comparison information is enough to cause individuals to be aware of their own uncertainty and dissatisfaction, regardless of whether this information is coming from a perceived better-off or worse-off couple. However, it should be noted that this study required participants to retrospectively report on their comparison tendencies and so the results of this study may have been subject to bias. Stone et al. (1998) highlight the difficulty of retrospective recall in accurately capturing individuals' cognitions. Research employing prospective or experimental methodology may therefore more accurately determine individuals' affective and evaluative responses than those requiring retrospective recall.

The findings of experimental research are generally in keeping with the contention of contrastive processes in comparison. In focusing on positive relationship cognitions, Buunk et al. (2001) found that engaging in downward social comparison resulted in individuals reporting greater relationship satisfaction than simply thinking about the positive characteristics of their current relationship. In their study presenting individuals with descriptions of either successful or unsuccessful marriages, Buunk and Ybema (2003) found that marital evaluation was lower after comparison with an upward target and higher after comparison with a downward target. Buunk (2006) investigated affective outcomes to marital comparisons and found that after reading about a successful marriage in which both partners worked hard to achieve their success,

individuals who were higher in social comparison orientation experienced more positive affect, whereas reading about a successful marriage that was characterised by low effort produced more negative affect.

Social comparison and life satisfaction

In sum, the results of the above studies provide support for the importance of studying social comparison and its effects on the individuals who make them. The benefits of engaging in favourable relationship comparisons appear to go beyond those afforded by simply thinking about the positive qualities encompassed by a current relationship experience. Indeed, when considering the results of the general social comparison research reviewed here, the consistent finding is that individuals' affective and cognitive well-being can be greatly influenced by the comparisons they make and how they cognitively interpret the information presented to them in this way. The research reviewed thus far has focused on affective and evaluative consequences of social comparisons. While both outcomes are relevant to well-being, the research investigating the cognitive-judgmental factor outlined in the subjective well-being literature, namely that of life satisfaction, is scarce.

Frieswijk, Buunk, Steverink and Slaets (2004a) examined the effect of social comparison on the life satisfaction of frail and older individuals. Participants in their study were presented with a bogus interview of either a positive description of low frailty or negative description of high frailty, providing opportunity for either upward or downward comparison. They found that downward comparison had a more positive effect on life satisfaction, such that the individuals who had read the high-frailty interview reported themselves to be more satisfied with their lives than those who had read the low-frailty version. Frieswijk and colleagues (2004b) further examined life satisfaction among frail older individuals, focusing on the identification-contrast processes put forward by Buunk and Ybema (1997). Here, they found that older individuals with greater frailty were less motivated to contrast from a downward comparison target, instead demonstrating preference for identifying with and hence seeing similarities between themselves and such targets.

Current series of work

The above literature review has highlighted an existing gap in the current adult attachment literature regarding both life satisfaction and social comparisons. While studies investigating attachment-based differences in life satisfaction have found evidence to suggest that differing levels of security and insecurity predict baseline

differences in life satisfaction, there has been little further exploration of additional factors that might produce further differences in life satisfaction experience. As such, the first step of the current series of studies was to examine more in-depth the experience of satisfaction with life on the basis of individuals' feelings of anxiety and avoidance through considering the roles of interpersonal circumstances. Specifically, given the centrality of interpersonal processes in attachment theory the aim was to explore how relationship status and, for those in relationships, relationship satisfaction moderate the associations between attachment orientations and well-being in the form of life satisfaction. The review of the existing adult attachment literature also revealed that consideration of variation in life satisfaction had not previously been examined; research outside the framework of attachment has utilised diary study methodologies to investigate changes in life satisfaction across time and indeed found evidence to suggest that intra-individual variations in life quality perceptions do exist (Heller et al., 2006). As such while previous research examining baseline differences in life satisfaction have been highly informative, a further aim of the current series of work was to examine how attachment may predict differences in changes to life satisfaction (as well as additional well-being factors highlighted within the subjective well-being literature as relevant, namely, positive and negative mood as well as self-esteem) in response to changes in interpersonal circumstance. As such it was hoped that a more thorough examination of the life satisfaction experienced on the basis of anxiety and avoidance would contribute to the existing literature by providing more insight into how adult attachment can influence individuals' experience of well-being.

With social comparison suggested within the subjective well-being literature to play an important role in life satisfaction (e.g., Diener & Fujita, 1997), an additional aim was to explore the role of attachment-based differences in social comparison tendencies in predicting differences in satisfaction with life. However, as identified within the review of the social comparison literature, empirical attention on attachment and social comparison is slight and as such before social comparison's role in well-being could be explored, attachment-based social comparison tendencies were required to be investigated. Specifically, as highlighted earlier, there is currently no research examining general tendencies to engage in social comparison, comparison direction typically engaged in, and the nature of identification or contrast processes evidenced. Furthermore, no research has explored affective response to comparison information within an attachment theoretical perspective and as such a further aim was to explore

how individuals' anxiety and avoidance predict differences in affective reaction to naturalistic comparisons as captured using diary study methodology. With general comparison tendencies as listed here revealed, the gap concerning the role of social comparison tendencies as mediator between adult self-reported attachment and life satisfaction could then be explored.

The next step in the current work series was then to further explore attachment-based social comparisons by focusing on interpersonally-oriented social comparisons (that is, those made on romantic partners and relationships). This topic has been examined once in previous research by Smith LeBeau and Buckingham (2008), who found that attachment anxiety and avoidance both positively correlated with relationship comparison orientation. However, the current work sought to expand upon this study by utilising a measure that allowed for the testing of specific partner and relationship traits that may be subjected to comparative scrutiny. With the measure used by Smith LeBeau and Buckingham (2008) unable to test for specific types of interpersonal comparisons, a new measure was to be created using the work of Fletcher and colleagues (Fletcher & Simpson, 2000; Fletcher, Simpson, & Thomas, 2000; Fletcher, Simpson, Thomas, & Giles, 1999) on partner and relationship ideal standards. To inform predictions of attachment-based differences in comparison of partner and relationship traits, however, first examination of the importance placed on such traits was to be examined. While one study (Arseth, Kroger, & Martinussen, 2009) has previously examined endorsement of interpersonal ideals on the basis of security, preoccupation, and dismissing- and fearful-avoidance (see Chapter 4 for more thorough exploration of this study, as well as partner and relationship ideal standards research), certain limitations in the attachment assessment used was sought to be addressed before obtaining results to be used as a basis for theoretical predictions.

Similarly as for general social comparisons, the next step of the current series was to then explore the role of interpersonal social comparison tendencies (that is, tendency to compare one's own relationship to others, directional tendencies as well as orientation towards identification and contrast) in understanding the association between adult attachment and life satisfaction as well as relationship satisfaction.

The final aim of the current work series was on exploring the role of social comparison in providing insight into the findings obtained on adult attachment and changes in life satisfaction in response to interpersonal experiences by considering social comparison in the form of social ranking perceptions (that is, the positivity or

negativity of perception of self in comparison to social others). Specifically the final goal was to explore the potential mediating role of social ranking for the association between attachment and life satisfaction, as well as how interactions between attachment, social ranking, and time (that is, length of current relationship and length of time since a last relationship) interact with one another to predict differences in life satisfaction experience.

Chapter 2. Study 1: Adult Attachment, Relationship Experience, and Well-Being: Correlational and Longitudinal Analyses

Referring back to empirical examination of the link between adult attachment and life satisfaction, the research thus far has focused on examining baseline levels of life satisfaction only, as well as focusing on direct links without consideration of moderating variables. Given the centrality of interpersonal relationships in attachment theory, as well as the above discussed research suggesting cognitive and affective well-being to be intrinsically linked to interpersonal processes, the aim of the current study was, across four parts, to examine how individuals' attachment orientations interact with current relationship experiences to predict differences in subjective well-being. Study 1A examined the impact of individuals' attachment anxiety and avoidance on life satisfaction, as well as examined the moderating effect of individuals' current relationship status (that is, being in a romantic relationship versus not). Study 1B focused on individuals currently in a relationship and explored the impact of their relationship satisfaction on their feelings of overall life satisfaction. Study 1C examined changes in well-being, including self-esteem and positive/negative mood in addition to life satisfaction, as changes in relationship status occur (that is, when individuals either enter into a new relationship or leave a current one). Lastly, Study 1D examined changes in individuals' well-being in the weeks subsequent to having experienced a relationship status change.

Study 1A: Adult Attachment, Relationship Status, and Life Satisfaction

As described above, the focus of Study 1A was an exploratory examination of the impact of relationship status (in this instance, a simple dichotomised definition of being in a relationship versus not) on the cognitive well-being factor of life satisfaction. Before examination of this association could be carried out however, the baseline differences established in previous research needed to be confirmed.

Hypothesis 1: Greater attachment anxiety and avoidance will predict lower life satisfaction, such that those fitting the secure attachment orientation will report the highest satisfaction, followed by dismissing-avoidant, then preoccupied, with those fitting the fearful-avoidant attachment orientation reporting the lowest.

As discussed earlier, there are several theoretical reasons to support the above hypothesis. To summarise, with their more favourable hedonic balances (that is, greater experience of positive affect than negative affect), positive models of self and other, the adaptive cognitive strategies employed when dealing with negative situations (both as they're encountered and in retrospective examination), and ability to actualise their attachment goals of high intimacy and independence with ease, secure individuals should hold more positive views of the quality of their lives and subsequently evaluate them more favourably. With their similarly favourable hedonic balances and positive models of self (due to their defensive nature of limited processing of negative cognitive and affective experiences), dismissing-avoidant individuals are anticipated to report life satisfaction that is greater than their insecure counterparts but that which is lower than secures. Preoccupied and fearful-avoidant individuals' high anxiety ensures greater experience of negative affect (both in frequency due to their tendency toward negative interpersonal interpretation and in experience due to emotional spreading) and maladaptive cognitive strategies akin to rumination preventing emotional and evaluative resolution. Their similar anxiety also results in both attachment styles to place great importance on their interpersonal relationships when it comes to well-being and it is on this basis that preoccupied individuals are anticipated to report higher life satisfaction than fearful-avoidant individuals. Preoccupied individuals' low avoidance allows them to pursue the relationship experiences they desire (that is, high intimacy and low independence); fearful-avoidant individuals, with their high avoidance, instead maintain an emotional distance from others to protect against the rejection they anticipate and hence deny themselves the ability to actualise their high-intimacy relationship needs and as such are expected to report the lowest life satisfaction.

Hypothesis 2: There will be a significant difference between the life satisfaction reported by individuals currently in relationships and those currently not in relationships, with the former group anticipated to report high life satisfaction over the latter.

Previous research has established that individuals' relationships are important factors in the consideration of subjective well-being (e.g., Campbell, Converse, & Rodgers, 1976; Demir, 2008; Diener, Gohm, Suh, & Oishi, 2000; Gove, Hughes, & Style, 1983; Lee, Seccombe, & Shehan, 1991; Waite, 1995), with Kamp Dush and Amato (2005) suggesting the findings of increased well-being in committed

relationships to be a result of increased opportunity for support and integration. Consistent with this established trend, it is anticipated in the current study that individuals currently in a relationship will report greater life satisfaction than those who are not.

Hypothesis 3: Relationship status will moderate the association between attachment and life satisfaction.

While it is anticipated that general levels of life satisfaction should match those predicted in Hypothesis 1, it is anticipated that there will be differences within attachment dimensions across relationship status. Specifically, it is anticipated that for low-avoidance individuals, being in a relationship should predict greater life satisfaction than not being in a relationship. To consider this more in the context of attachment classifications, this pattern is applicable to individuals fitting secure (low anxiety/avoidance) and preoccupied (high anxiety/low avoidance) attachment classifications; both ‘groups’ comfort with closeness and desire for intimacy should result in increased life satisfaction when in a relationship due to that relationship providing stable access to the means to gratify their attachment-related intimacy needs. However, with high-anxiety individuals’ subjective well-being perceptions being more heavily reliant on relationship experiences (e.g., Campbell et al., 2005), it is anticipated that those fitting a preoccupied attachment classification will report a greater difference in life satisfaction scores across relationship status than secures.

For high levels of attachment avoidance, individuals fitting a fearful-avoidant attachment classification (high anxiety/avoidance) who are currently in a relationship are anticipated to report increased life satisfaction over those who are currently not in a relationship. However, this increase is expected to be to a lesser extent than their low-avoidant (secure and preoccupied) counterparts. Previous research has identified that high anxiety individuals experience decreased relationship satisfaction and demonstrate a negative predisposition in interpreting others’ behaviours (e.g., Campbell et al., 2005; Kafetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996). Furthermore, fearful-avoidant individuals’ interpersonal behaviours are governed by their negative models of self and other, which, as discussed earlier, manifests as an anticipation of disapproval and rejection by their significant others. As such, one might expect that being in a relationship presents fearful-avoidant individuals with regular

opportunities for negative interpersonal interpretation and expectation and therefore should result in reported decreased life satisfaction over those not in relationships. However, such individuals do desire closeness with others (e.g., Bartholomew & Horowitz, 1991; Pietromonaco & Feldman Barrett, 2000); while their feelings of avoidance may be conflictual to this desire, a relationship still presents the potential to actualise their intimacy needs and therefore it is anticipated that for those fitting into this attachment classification, individuals in a relationship should report slightly higher life satisfaction than those who are not. Lastly, dismissing-avoidant individuals are not anticipated to report different levels of life satisfaction on the basis of being in a relationship or not. With their high avoidance and low anxiety, this orientation is characterised by a downplaying of attachment relationships; being in a relationship should therefore have little influence in evaluations of overall life satisfaction and hence there is not expected to be a difference in this well-being factor across the two relationship statuses.

Method

Participants

In total, 14,628 participants completed an initial set of measures posted online. Of these participants, 10,302 were female (70.4%) and 4,322 (29.5%) were male; 4 participants did not specify. Participant age ranged from 18 to 85 ($M = 30.7$, $SD = 9.63$). The majority of participants resided in either the United Kingdom or the United States of America (totalling 43% and 30% respectively). Of the remaining sample, 4.6% resided in Canada, 1.7% India, 1.4% Brazil, and 1.3% from each of Singapore, Australia, and France; the remaining 14% were spread internationally. For relationship-related variables, 91.3% participants identified themselves as heterosexual, with 2.8% reporting as homosexual, 5.3% as bisexual, and 0.5% classifying themselves as “Other”. Sixty-six percent of the sample reported themselves to be in a relationship at the time of the study while 33.8% reported being out of a relationship. Of those in not in relationships, 4,480 (30.6%) reported themselves as single, 126 (0.9%) as separated from a spouse, 283 (1.9%) as divorced, and 34 (0.2%) as widowed. Of those in relationships, 3,008 (20.6%) reported themselves as in a relationship but not co-habiting, 2,471 (16.9%) as in a relationship and co-habiting, 568 (3.9%) as engaged, and 3,591 (24.5%) as married. 62 participants (0.4%) reported themselves as “Other”.

Measures

The current study was part of a larger study comprising several personality, well-being, and interpersonal measures. The following measures were utilised for Study 1A.

Demographic questionnaire. Participants were asked to complete a demographic questionnaire. Questions included those of gender, age, sexual orientation, relationship status, relationship length if applicable, and countries of residence and origin.

Adult Attachment. Attachment was measured using the Experiences in Close Relationships – Revised (Fraley et al., 2000) scale. The ECR-R is a dimensional assessment of attachment with 18 items measuring anxiety (e.g., “I worry a lot about my relationships”, “I find that my partners don’t want to get as close as I would like”) and 18 items measuring avoidance (e.g., I get uncomfortable when a romantic partner wants to be very close”, “I don’t feel comfortable opening up to romantic partners”). Participants are required to rate on a Likert-type scale the extent to which they agree with each item, ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”). The scale has been shown in previous work to have good reliability (e.g., Fraley et al., 2000; Sibley & Liu, 2004). In the current study, Cronbach’s alpha for each of anxiety and avoidance was .93.

Life Satisfaction. Life satisfaction was assessed using Diener et al.’s (1985) Satisfaction with Life Scale (SWLS). The scale consists of 5 items describing satisfaction with life as considered as a whole (e.g., “In most ways my life is close to my ideal”, “I am satisfied with my life”). Participants are required to indicate the extent to which they agree with each item, ranging from 1 (“Strongly Disagree”) to 7 (“Strongly Agree”). Previous research has established the SWLS to have high reliability (e.g., Shevlin, Brunson, & Miles, 1998; Vasser, 2008); Chronbach’s alpha for the current study was .88.

Procedure

The current study was carried out online in order to garner as large a sample as possible. Participants could access the study via both Heriot-Watt University’s web pages and the Family and Personal Relationships Laboratory (FPRL) web pages. In the weeks prior to study commencement, media attention was utilised to raise awareness of previous research carried out within the laboratory and individuals were provided with information on where to go should they wish to find out more about current research. If interested in taking part, participants provided informed online consent and completed the measures, which, due to the online nature of the study, were completed in the same order.

Results

Descriptive statistics and correlations

The means and standard deviations for all variables of interest are presented in Table 1.

Table 1. Descriptive statistics

	Mean	Standard Deviation
Attachment anxiety	3.97	1.24
Attachment avoidance	2.99	1.12
Life satisfaction	22.65	6.71
Relationship satisfaction	25.76	2.84

Means and standard deviations for anxiety and avoidance are generally consistent with those established in previous research (see Fraley, 2010). The mean for life satisfaction was found to be slightly higher than levels reported in previous research (e.g., Hwang et al., 2009; Perrone, Webb, & Vance, 2007); although the life satisfaction variable in the current study is summed, a mean was calculated ($M = 4.53$, $SD = 1.34$) in order to compare with previous research scoring in this manner. This too supported the finding of slightly elevated life satisfaction being reported in the current study (e.g., Heller et al., 2006; Hinnen et al., 2009; Kuppens, Realo, & Diener, 2008).

Pearson correlation coefficients were first calculated to examine the relationship between adult attachment dimensions and life satisfaction. Table 2 presents the results of these analyses.

Table 2. Correlations between Attachment Dimensions and Well-Being

	1	2	3	4
1. Anxiety	-	.46***	-.44***	-.53***
2. Avoidance		-	-.38***	-.31***
3. Life Satisfaction			-	.58***
4. Self-Esteem				-

*** $p < .001$

Consistent with previous research, there were significant negative correlations between life satisfaction and attachment anxiety ($r = -.44$, $p < .001$) and avoidance ($r = -.38$, $p < .001$), suggesting that as feelings of attachment anxiety and avoidance (independently) increase, feelings of overall satisfaction with life decrease.

Attachment, Relationship Status, and Life Satisfaction

Hypothesis 1 predicted that greater attachment anxiety and avoidance would predict lower life satisfaction. Using multiple linear regression to test this hypothesis, life satisfaction was regressed onto the two attachment dimensions on the first step and their interaction term (anxiety*avoidance) on the second step. The interaction term was created using the methods outlined by Aiken and West (1991) in which variables of interest are mean centred before being subject to analysis. The results of the above regression equation are presented in Table 3.

Table 3. Adult Attachment as Predictor of Life Satisfaction

Attachment	B	SE B	β	R² Change	F Change
Anxiety	-1.81	.04	-.33***		
Avoidance	-1.38	.05	-.23***	.23	2211.44***
Anxiety*Avoidance	.08	.04	.02*	.00	5.72*

* $p < .05$

*** $p < .001$

The model at the first step was significant ($F = 2211.44$ (2, 14520) $p < .001$) as well as at the second step ($F = 1476.68$ (3, 14517) $p < .001$), which accounted for 23.4% of the variance (R^2). As attachment anxiety and avoidance increase, life satisfaction decreases. Figure 1 presents their interaction (with slopes analyses presented in Table 4).

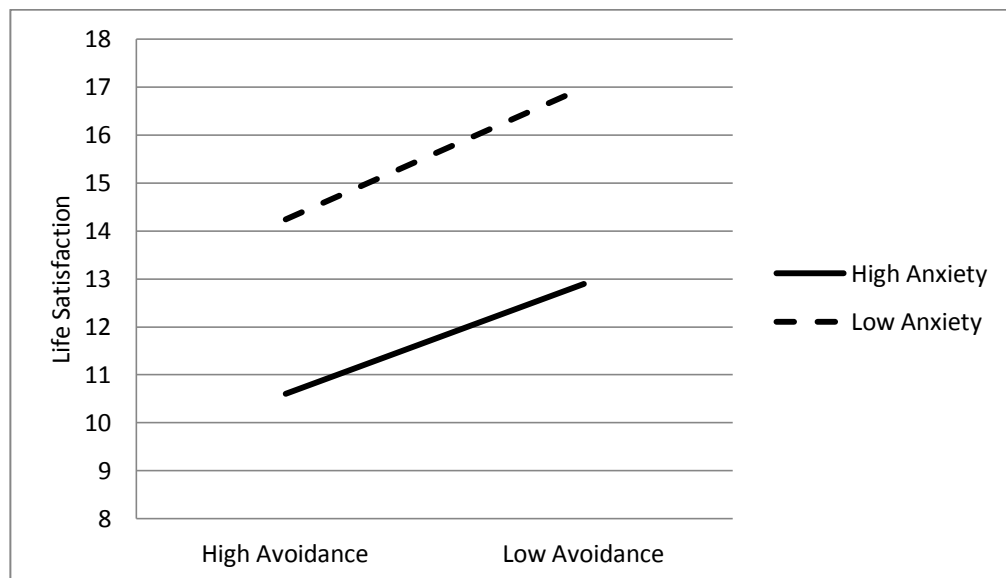


Figure 1. Attachment Orientations as Predictors of Life Satisfaction.

Table 4. Simple Slopes Analyses for Life Satisfaction Differences

Differences	t
Fearful-avoidant and Dismissing-avoidant	-29.66***
Secure and Preoccupied	-31.73***
Fearful-avoidant and Preoccupied	-20.04***
Secure and Dismissing-avoidant	-22.17***

*** $p < .001$

Interpreting the results in the context of attachment orientation classifications, individuals fitting a secure attachment classification (low anxiety/low avoidance) report the highest life satisfaction, followed by dismissing-avoidant (low anxiety/high avoidance), and preoccupied (high anxiety/low avoidance). Individuals fitting a fearful-avoidant classification (high anxiety/high avoidance) report the lowest life satisfaction. Hypothesis 1 was therefore supported.

The second hypothesis predicted levels of life satisfaction on the basis of relationship status, such that individuals in a relationship would report higher life satisfaction than those not in a relationship. Relationship status was dummy-coded, with 0 representing individuals not in a relationship and 1 representing those who were. An independent *t*-test was performed; the results revealed there was a significant difference in life satisfaction reported across the two groups ($t = -27.70$, $df = 7245.81$, $p < .001$). Individuals currently in relationships reported higher life satisfaction ($M = 23.63$, $SD = 6.40$) than those currently not in relationships ($M = 20.22$, $SD = 6.83$), supporting Hypothesis 2.

Hypothesis 3 predicted that relationship status would moderate the relationship between attachment and life satisfaction. To test for this, life satisfaction was regressed onto the anxiety and avoidance dimensions at the first step, their two-way interaction term, relationship status and its two-way interactions with anxiety and avoidance at the second step, and then a final three-way interaction between each of the variables at the third step. The results are presented in Table 5.

Table 5. Adult Attachment, Relationship Status, and Life Satisfaction

Attachment	B	SE B	β	R ² Change	F Change
Anxiety	-1.83	.09	-.34***		
Avoidance	-.77	.09	-.13***		
Relationship Status	.74	.13	.05***	.24	1483.65***
Anxiety*Status	.20	.10	.03*		
Avoidance*Status	-.83	.11	-.11***		
Anxiety*Avoidance	-.07	.06	-.01	.00	19.42***
Anxiety*Avoidance* Status	.16	.08	.03*	.00	4.18*

* $p < .05$

*** $p < .001$

The model at the third step was significant ($F = 647.33$ (7, 14512) $p < .001$) (with the models at the first ($F = 1483.65$ (3, 14512) $p < .001$) and second ($F = 754.36$ (6, 14512) $p < .001$) steps also significant) and accounted for 23.8% of the variance (R^2). Figure 2 presents the three-way interaction (with Table 6 presenting simple slopes analyses results). As hypothesised, individuals fitting a secure attachment classification (low anxiety/avoidance) reported the highest life satisfaction overall, followed by dismissing-avoidant, preoccupied, and then fearful-avoidant. With regards to differences across relationship status, for secure-orientation individuals, there appears to be minimal difference in life satisfaction reported between those in a relationship and those who are not. For fearful-avoidant and preoccupied individuals, however, being in a relationship sees a greater satisfaction with life than when not in a relationship. Lastly, individuals fitting a dismissing-avoidant classification report a lower satisfaction with life when in a relationship compared to their single counterparts, suggesting that such individuals appear to assess the overall quality of their lives as being better when they are out of a relationship than when they are in.

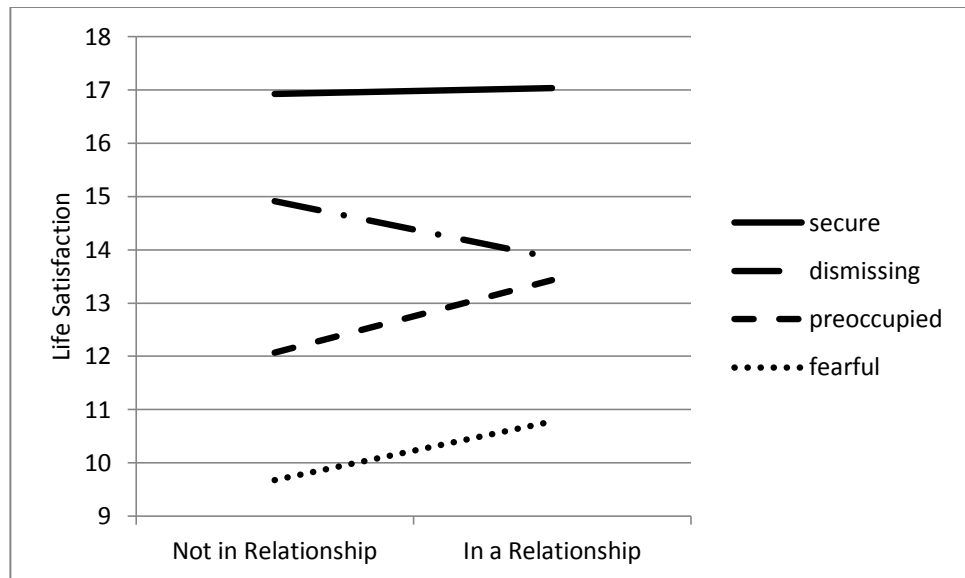


Figure 2. Attachment Orientation and Relationship Status as Predictors of Life Satisfaction.

Table 6. Simple Slopes Analyses for Attachment, Relationship Status, and Life Satisfaction

Slopes Differences	t
Secure	1.80
Dismissing-avoidant	-2.50*
Preoccupied	6.33***
Fearful-avoidant	5.87***

* $p < .05$

*** $p < .001$

Study 1B: Adult Attachment, Relationship Satisfaction, and Life Satisfaction

The focus of Study 1B was on participants who were currently in a relationship, with the aim to examine the impact of attachment and its interaction with relationship satisfaction on individuals' feelings of life satisfaction. The following hypotheses were made:

Hypothesis 1: Greater attachment anxiety and avoidance will both be predictive of decreased relationship satisfaction, such that those fitting a secure attachment orientation will report the highest relationship satisfaction, followed by dismissing-avoidant and then preoccupied, with those fitting the fearful-avoidant attachment orientation reporting the lowest.

Research has consistently found evidence of secure individuals reporting greater relationship satisfaction than insecure individuals (e.g., Collins & Read, 1990; Feeney, 2002; Simpson, 1990), explainable through experiencing greater intimacy (Mikulincer & Erev, 1991), trust, and commitment (Simpson, 1990) in their relationships, as well as interpreting interpersonal interactions more positively (e.g., Kafetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996). High-anxiety individuals experience feelings of chronic jealousy and insecurity in their relationships (e.g., Sharpsteen & Kirkpatrick, 1997) and perceive greater conflict (Campbell et al., 2005). Furthermore such individuals respond to negatively-perceived partner behaviours in a more conflictual manner (e.g., Collins et al., 2006) and adopt less constructive strategies in resolving disagreements (Carnelley et al., 1994). High avoidance, meanwhile, has been found to be associated with emotional distancing in relationships and their surrounding interpersonal processes (Mikulincer & Nachshon, 1991; Mikulincer & Shaver, 2005). The current study therefore expected to replicate the findings of previous research examining differences in relationship satisfaction.

Hypothesis 2: Greater relationship satisfaction will predict increased life satisfaction.

Much research has provided evidence to support the psychological benefits of rewarding interpersonal experiences. Demir (2008) found romantic relationship quality to be predictive of happiness, with emotional security and companionship to be the strongest predictors. The findings of Diener et al. (2000) and Kamp Dush and Amato (2005) also seem to suggest that the increased commitment in marriage (and perhaps then the associated emotional security such commitment affords) is associated with increased happiness also. Conversely, unsatisfying relationships have been shown to be detrimental to well-being, with instances emerging where remaining in such a relationship can be more deleterious to well-being than leaving a marriage or being unmarried (Williams, 2003). As such, it is expected that as relationship satisfaction increases, the well-being construct of life satisfaction will also increase.

Hypothesis 3: Relationship satisfaction will moderate the association between attachment and life satisfaction.

While it is expected that general levels of relationship satisfaction will replicate those identified by analyses testing Hypothesis 1, it is anticipated that there will be differences produced by the attachment dimensions' interactions with experienced relationship satisfaction. Specifically for anxiety, it is anticipated that for high-anxiety individuals, being in a satisfying romantic relationship would see greater life satisfaction than for those being in a dissatisfying romantic relationship while for low-anxiety individuals, regardless of whether their romantic experiences are satisfying or not their levels of life satisfaction would be expected to be similar. The basis for the above reasoning lies in the findings of Study 1A; for high-anxiety preoccupied- and fearful-type individuals, being in a romantic relationship saw a greater life satisfaction reported over their single counterparts whereas for low-anxiety secure-type individuals, relationship status so no significant difference in life satisfaction reported. These findings appeared to support the notion that high-anxiety individuals place greater importance on their relationship-related experiences for their well-being perceptions (in this instance, life satisfaction) that has been suggested in previous research (e.g., Campbell et al., 2005). Therefore, consistent findings for differences in relationship satisfaction experienced were expected to be produced here.

For avoidance, it was anticipated that a similar pattern to that predicted on the basis of anxiety would emerge; high-avoidance individuals reporting lower relationship satisfaction would report a decreased life satisfaction over their low-avoidance counterparts. Many sources of relationship dissatisfaction, such as relationship conflict, involve increased intimacy; in the case of conflict, the disclosure of feelings and the need for resolution over interpersonal distress requires a compromise on the emotional distance high-avoidance individuals desire. Because low-avoidance individuals do not share this same aversion to such intimacy-provoking situations it was therefore reasoned that high-avoidance individuals in dissatisfying relationships would report decreased life satisfaction over those low in attachment avoidance.

Method

Participants

The same overall participant sample as employed in Study 1A was utilised for the current study. A subsample was created comprising participants who reported currently being in a relationship only. After excluding those not currently in a relationship, the sample consisted of 10,419 participants, 7,451 (71.5%) of whom were female and 2,968 (28.5%) were male; 3 participants did not specify. Age ranged from 18 to 85 ($M =$

31.49, SD = 9.75). The vast majority of this sample identified themselves as heterosexual (9,549; 91.6%), with 262 (2.5%) identifying themselves as homosexual, 564 (5.4%) as bisexual, and 44 (0.4%) as “Other”. Most participants resided in the United Kingdom (4784) or United States (3067), with 491 (4.7%) residing in Canada, 160 (1.5%) in Ireland, 158 (1.5%) in Australia, 145 (1.4%) in Spain, 130 (1.2%) in Brazil, 121 (1.2%) in France, with the remaining sample being spread internationally.

Measures

Relationship Satisfaction. Relationship satisfaction was measured using the satisfaction subscale of the Dyadic Adjustment Scale (Spanier, 1976). Sample questions include “How often do you discuss or have you considered divorce, separation, or terminating your relationship?” and “In general, how often do you think that things between you and your partner are going well?”

Due to the present study utilising a sub-sample of the previous one, the information on adult attachment, life satisfaction, and demographic measures can be found in Study 1A.

Procedure

Data for this study were collected simultaneously to Study 1A; participants accessed the study web pages online, provided consent to take part and completed the measures in a fixed order.

Results

Descriptive statistics and correlations

The means and standard deviations for attachment anxiety, avoidance, relationship satisfaction, and life satisfaction are presented in Table 7.

Table 7. Descriptive statistics

	Mean	Standard Deviation
Attachment anxiety	2.81	1.15
Attachment avoidance	2.73	.10
Relationship satisfaction	25.76	2.84
Life satisfaction	23.63	6.40

As in the sample utilised in Study 1A, attachment anxiety and avoidance were consistent with what has been previously reported (see Fraley, 2010), with life satisfaction being slightly elevated over that which has been reported in previous research (e.g., Hwang et al., 2009; Perrone, et al., 2007).

Pearson correlation coefficients were calculated to examine the associations between attachment anxiety, avoidance, relationship satisfaction, and life satisfaction. Table 8 presents the results of these analyses.

Table 8. Correlations between attachment dimensions, relationship status, and life satisfaction

	1	2	3	4
1. Anxiety	-	.45***	-.30***	-.41***
2. Avoidance		-	-.28***	-.34***
3. Relationship satisfaction			-	.25***
4. Life satisfaction				-

*** $p < .001$

Significant associations were found between each of the variables; consistent with previous research, attachment anxiety and avoidance were both found to correlate negatively with relationship satisfaction. Life satisfaction, meanwhile, was found to correlate negatively with both attachment anxiety and avoidance and to correlate positively with relationship satisfaction.

Adult Attachment, Relationship Satisfaction, and Life Satisfaction

Hypothesis 1 predicted that greater attachment anxiety and avoidance would predict decreased relationship satisfaction. To test this, relationship satisfaction was regressed onto attachment anxiety and avoidance at the first step, and their interaction term at the second step. The overall model was significant ($F = 455.82$ (3, 10393) $p < .001$) and accounted for 11.6% (R^2) of the variance. Attachment anxiety ($\beta = -.22$, $p < .001$) and avoidance ($\beta = -.19$, $p < .001$) were both significant predictors of relationship satisfaction. Consistent with previous research then, as attachment anxiety and avoidance increase, relationship satisfaction decreases. Their interaction was also significant ($\beta = -.04$, $p < .001$) and is presented in Figure 3 (with simple slopes analyses presented in Table 9).

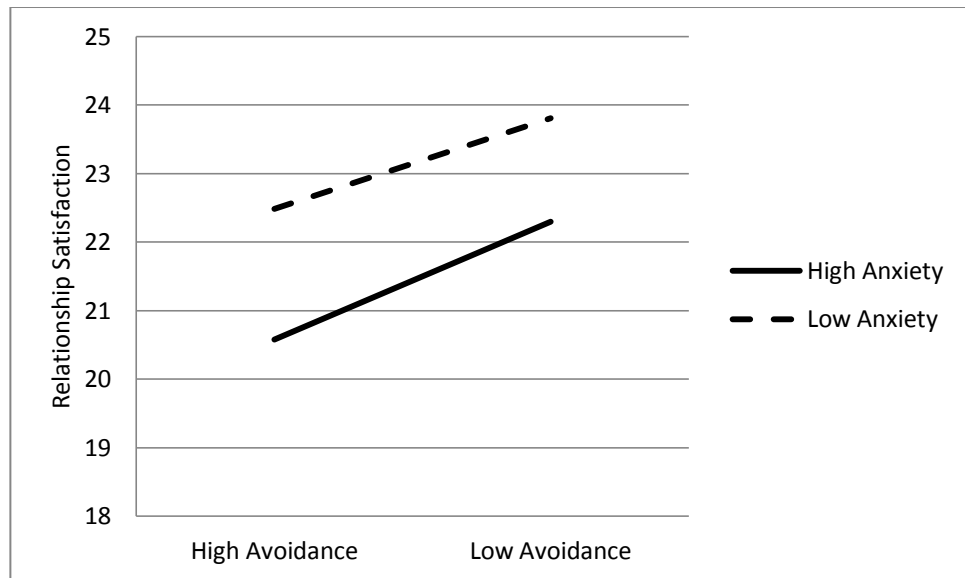


Figure 3. Attachment as Predictor of Relationship Satisfaction.

Table 9. Simple Slopes Analyses for Attachment and Relationship Satisfaction

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	-12.49***
Secure and Preoccupied	-26.16***
Fearful-avoidant and Preoccupied	-16.62***
Secure and Dismissing-avoidant	-10.08**

** $p < .01$

*** $p < .001$

Interpreting the results in the context of attachment orientation classifications, individuals fitting a secure attachment classification (low anxiety/low avoidance) report the highest relationship satisfaction, with individuals fitting a fearful-avoidant classification reporting the lowest satisfaction. Individuals fitting dismissing-avoidant (low anxiety/high avoidance) and preoccupied (high anxiety/low-avoidance) report similar levels of relationship satisfaction. Hypothesis 1 was therefore partially supported; greater anxiety and avoidance were predictive of increased relationship satisfaction, with their interaction suggesting secure individuals to report the highest and fearful-avoidant the lowest. Where Hypothesis 1 was not supported was in the similar levels of relationship satisfaction reported by individuals fitting preoccupied and dismissing-avoidant classification; although the latter appear to report slightly higher, the difference between these two groups (as presented visually) is minimal.

Hypothesis 2 predicted that greater relationship satisfaction would predict greater life satisfaction. A simple linear regression was performed in which life satisfaction was regressed onto relationship satisfaction. The model was significant ($F = 715.18$ (1, 10383) $p < .001$) and accounted for 6.4% of the variance. As predicted, greater relationship satisfaction predicted increased life satisfaction ($\beta = .25$, $p < .001$), supporting Hypothesis 2.

The final hypothesis predicted relationship satisfaction to moderate the earlier-established (Study 1A) association between adult attachment and life satisfaction. Multiple linear regression was performed in which life satisfaction was regressed onto attachment anxiety, avoidance, and their two-way interaction, relationship satisfaction and its two way interactions with anxiety and avoidance, and lastly the three-way interaction. As in Study 1A, interaction terms were created in accordance with the guidelines suggested by Aiken and West (1991). The overall model was significant ($F = 441.41$ (7, 10382) $p < .001$, with the models at the first ($F = 1020.01$ (3, 10382) $p < .001$) and second ($F = 514.94$ (6, 10382) $p < .001$) steps also significant) and accounted for 22.9% of the variance (R^2). Table 10 presents the results.

Table 10. Attachment, Relationship Satisfaction, and Life Satisfaction

	B	SE B	β	R^2	F Change
				Change	
Anxiety	-1.53	.06	-.28***		
Avoidance	-1.48	.07	-.23***		
Relationship Satisfaction	.21	.02	.09***	.23	1020.01***
Anxiety*Avoidance	.20	.05	.03***		
Anxiety*Satisfaction	.03	.02	.02 ^a		
Avoidance*Satisfaction	.05	.02	.03**	.00	7.85***
Anxiety*Avoidance*Satisfaction	.01	.01	.01	.00	.44

^a $p = .09$

** $p = .01$

*** $p < .001$

Each of the anxiety, avoidance, and relationship satisfaction variables independently predicted life satisfaction, with the two former predicting decreased and the latter predicting increased satisfaction. While the interaction between anxiety and relationship satisfaction was not significant, avoidance's interaction with satisfaction was; to aid in its interpretation, the interaction is presented in Figure 4 (with slopes analyses presented in Table 11). Individuals scoring high in attachment avoidance and

reporting low relationship satisfaction report the lowest life satisfaction, while those scoring low in avoidance and high in relationship satisfaction report the highest. Slopes analyses revealed each of the tested slopes were significantly different to one another.

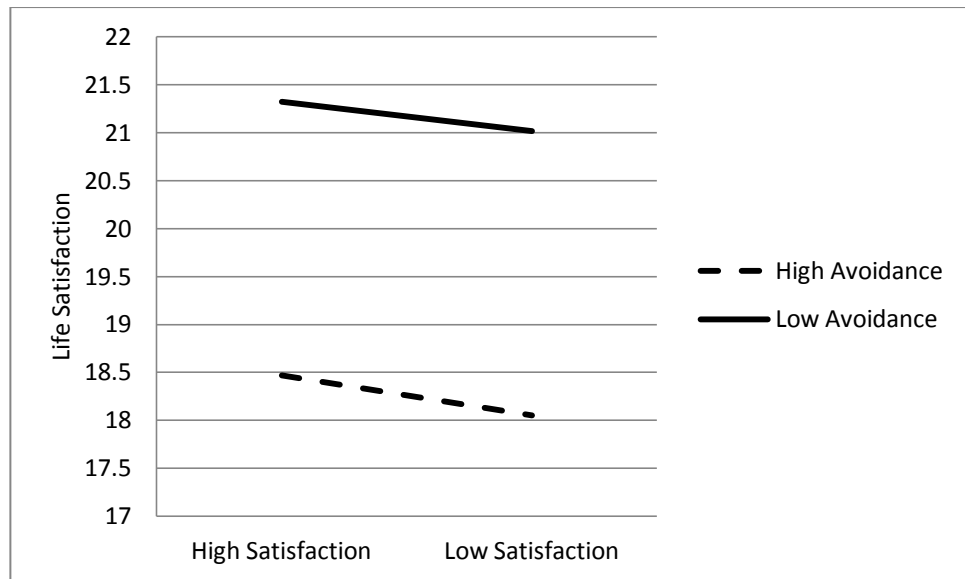


Figure 4. Attachment Avoidance and Relationship Status as Predictors of Life Satisfaction

Table 11. Simple Slopes Analyses for Avoidance and Relationship Satisfaction

Slopes Differences	t
High Avoidance/High Satisfaction and Low Avoidance/High Satisfaction	-15.01***
High Avoidance/Low Satisfaction and Low Avoidance/Low Satisfaction	-19.79***
High Avoidance/High Satisfaction and High Avoidance/Low Satisfaction	9.47***
Low Avoidance/High Satisfaction and Low Avoidance/Low Satisfaction	5.22**

** $p < .01$

*** $p < .001$

As can be seen from Table 10, the three-way interaction was not significant and so did not support Hypothesis 3.

Study 1C: Adult Attachment, Relationship Status Change, and Well-Being

The focus of the third part of Study 1 (C) was on investigating *changes* in well-being as individuals experience changes in their relationship experiences. Specifically, the aim of the current study was to examine the impact of attachment on several cognitive and affective well-being factors as individuals either enter into a new

relationship or experience the termination of a current one. The well-being literature, as earlier discussed, identifies life satisfaction as a major cognitive well-being factor (e.g., Andrews & Whithey, 1976; Bradburn, 1969; Diener & Diener, 1996; Lucas et al., 1996) along with positive and negative affectivity (Bradburn & Caplovitz, 1965; Diener et al., 1995) and as such all three were considered in the current study. Self-esteem is also a widely-investigated factor with regards to empirical examination of well-being. While the subjective well-being literature does not include perceptions of self as a facet of the tripartite factors of affective positivity and negativity and cognitive life satisfaction, it is argued here that it is a cognitive well-being factor that is relevant to consider when investigating cognitive reactions to changes in interpersonal circumstance. As earlier discussed, intrinsic to the feelings of anxiety and avoidance that are conceptualised in attachment theory are differences in perceptions of self and other, which are understood through consideration of internal working models (Bowlby, 1969, 1973, 1980). Previous research has found evidence to suggest that interpersonal events can indeed influence levels of attachment security, with loss found to be associated with increases in insecurity (Davila & Sargent, 2003). Inherent in these changes in security, therefore, are changes in perceptions, or working models, of *self*. While not considered to be interchangeable, the concepts of self-esteem and model of self are both reflective of evaluations of self-worth, with lower ratings on each descriptive of decreased well-being towards the self. As such, this line of thought formed the basis for the reasoning for inclusion of self-esteem in the current study as an additional well-being factor that may be susceptible to change on the basis of differences in attachment-based feelings and changes in interpersonal circumstance.

The following hypotheses were made:

Hypothesis 1. Attachment anxiety will predict changes in well-being factors life satisfaction, positive and negative mood, and self-esteem upon leaving a current relationship. Specifically, it is predicted that greater scores in attachment anxiety will predict a greater decrease in life satisfaction, greater decreased positive and increased negative moods, and a greater decrease in self-esteem. Individuals high in attachment anxiety are characterised by greater emotional reactivity than their low anxiety counterparts, place greater importance on their relationships and demonstrate over-reliance on romantic partners for validation of self. Furthermore, the research discussed earlier indicating that such individuals have a cognitive self-structure comprising fewer,

overlapping self-aspects suggests that a setback in one aspect of their lives, in this instance a relationship breakdown, should have a greater impact not only because the negative feelings that arise from this experience ‘spill over’ into other aspects, but because of the importance placed on this in conceptualising and validating the self.

Attachment avoidance meanwhile is not anticipated to predict changes in life satisfaction or self-esteem, but is anticipated to predict changes in positive and negative mood. As indicated in previous sections, individuals high in attachment avoidance are characterised by a downplaying of the importance of their interpersonal experiences, a defensive non-processing of affective experience, and a highly differentiated cognitive self-structure suggesting negative experiences in one aspect of their lives to remain isolated from, and therefore ineffectual to, other aspects in their associative network. As such, a relationship breakdown is not anticipated to impact on cognitive well-being on the basis of levels of avoidance. However, a defining characteristic of highly-avoidant individuals is their cognitive denial of affective experience; high avoidance has been identified within the attachment literature as being associated with defensive emotional cut-off and suppression (e.g., Fraley & Shaver, 1997; Kotler et al., 1994; Wei et al., 2005). In the case of experiencing a relationship ending then, as avoidance increases it is hypothesised that, due to such defensive affective denial practices, increase in negative mood and decrease in positive mood should decrease.

Hypothesis 2: Length of, and satisfaction with, the terminated relationship will moderate the association between attachment anxiety and changes in well-being. It was reasoned that inherent in longer romantic relationships is increased commitment and investment (notions captured in interdependence theory (e.g., Rusbult, 1983; Rusbult & Buunk, 1993)) and therefore the termination of a relationship with increased commitment and investment would represent a greater loss for the individual and therefore have a greater impact on well-being than a shorter-term relationship with less investment overall. When considering the additional role of attachment anxiety in predicting differences in changes in well-being, it was predicted that individuals high in anxiety would have a stronger cognitive and emotional response to a relationship breakdown due to the greater importance placed on their relationships as well as the general greater reactivity that characterises their orientations. Considered together then, it was anticipated that high-anxiety individuals who had experienced a termination of a longer-term relationship would experience the greatest decreases in well-being with low-anxiety individuals who

experienced the loss of a shorter-term relationship reporting the smallest decrease in well-being.

With regards to relationship satisfaction, it was anticipated that romantic relationships that were viewed by participants to be highly satisfying would predict greater decreases in well-being following a breakdown than those viewed as dissatisfying. A highly satisfying relationship that is a source of gratifying and emotionally rewarding experiences would represent a greater loss compared to a dissatisfying relationship that instead may be a source of emotional tension and discontentment. Furthermore, the termination of a more satisfying relationship may be an unexpected event due to satisfying interpersonal experiences being an atypical precursor to relationship dissolution. The addition of consideration of attachment anxiety would produce the same expected patterns as stated above for relationship length, and as such it was expected that individuals high in anxiety who described their relationships as satisfying would report the greatest decrease in well-being with low-anxiety individuals describing their relationships as dissatisfying reporting the smallest decrease.

Hypothesis 3: Attachment anxiety will predict changes in well-being factors life satisfaction, positive and negative mood, self-esteem, and feelings of attachment security and insecurity upon entering a new relationship. Specifically, it was predicted that lower scores in attachment anxiety would predict a greater increase in life satisfaction, greater increased positive and greater decreased negative moods, and a greater increase in self-esteem. Given the importance high anxiety individuals place on their relationships, it may at first seem counterintuitive to predict that it should be low-anxiety individuals whose well-being benefits more from a new relationship commencing. However by the very nature of their insecurity, high anxiety individuals derive less from their interpersonal experiences, reporting their interactions to be less satisfying overall through perceiving others to be less responsive to them and understanding them less than what secure individuals report (e.g., Kafetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996). Further to this, a new romantic relationship is anticipated to lead to the activation of self and other models ensuring that the resultant negative feelings of lovability and of anxieties over partner interest and responsiveness become more salient.

Similar to Hypothesis 1, attachment avoidance was not anticipated to predict differences in changes in cognitive well-being for the same reasons of downplaying of the importance of interpersonal experiences as highlighted in Hypothesis 1. Avoidance was, however, hypothesised to predict differences in changes in positive and negative mood, with increases in avoidance anticipated to predict lesser increase in positive and lesser decrease in negative moods.

Hypothesis 4: Satisfaction with the new relationship will moderate the association between attachment anxiety and changes in well-being. Specifically it was anticipated that the main effect of a new relationship that is providing satisfying experiences should see a greater increase in cognitive and affective well-being than a new relationship providing dissatisfying experiences. The further main effect of attachment anxiety would see differences in well-being change in the form of high-anxiety producing a smaller increase in well-being (due to the adverse cognitions and affective reactivity and experience that characterises such an orientation) than low-anxiety. When considered together, it was anticipated that low-anxiety individuals entering into a new relationship that was viewed positively (i.e. satisfying) would report the greatest increases in well-being and individuals high in anxiety entering into a dissatisfying relationship would report the smallest increases.

Method

Participants

Participants of Studies 1A and 1B were given the option of continuing their participation beyond the immediate set of measures by completing additional measures once a week for up to 24 weeks. Of the original 14,628 participants, 7,446 agreed to complete the weekly measures. Of these participants, 5,540 (74.3%) were female and 1,920 (25.7%) were male with age ranging from 18 to 79 ($M = 31.5$, $SD = 9.91$). Because the current study sought to identify the influence of attachment orientation on changes in well-being as changes in relationship status occur, two subsamples of participants who had experienced a relationship status change needed to be selected, one subsample for those who had entered into a new relationship during the 24-week period, and one subsample for those who had left a relationship. For each subsample, two data entries were included for each participant: the data entry in which participants had first reported a relationship status change and the data entry immediately prior to it. The

nature of the weekly measures required participants to report their feelings of well-being experienced for the past week. The current study was interested in examining immediate feelings surrounding a relationship change only and as such only participants who had reported a relationship status change within that one-week time frame were included. Participants who reported a relationship status change beyond this period of time were therefore not included.

The final sample for having left a relationship during the 24-week time period comprised 342 participants, 247 (72.2%) of whom were female and 95 (27.8%) were male. Age ranged from 18 to 71 ($M = 29.8$, $SD = 10.4$). Two hundred and ninety-nine (87.4%) identified themselves as heterosexual, 12 (3.5%) as homosexual, and 31 (9.1%) as bisexual. The majority of this sample resided within the United Kingdom (116, 33.9%) and United States (113, 33%). Of the remaining sample, 18 resided in Canada and Brazil each, with the rest being spread internationally.

The final sample for having entered into a relationship during the 24-week time period comprised 380 participants, 270 of whom were female (72.2%), 104 of whom were male (27.8%). Six participants did not specify their gender. Age ranged from 18 to 70 ($M = 29.7$, $SD = 9.9$). Three hundred and forty-four participants (92%) identified themselves as heterosexual, 9 (2.4%) as homosexual, 20 (5.3%) as bisexual, and 1 (0.3%) as “Other”; 6 participants did not specify. The majority of the sample resided within the United Kingdom (149, 39.8%) and United States (124, 33.2%) with the remaining sample being spread internationally.

Measures

Adult Attachment. Attachment was measured using the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991). The RQ is a widely-used self-report measure consisting of four items providing prototypical descriptions of each of secure, preoccupied, fearful-avoidant, and dismissing-avoidant attachment orientations. Participants are first required to indicate which one of the four prototypes best represents how they feel in their relationships before then indicating on a 7-point Likert-type scale (ranging from 1 “Does not describe me at all” to 7 “Describes me perfectly”) the extent to which each is descriptive of their feelings. From these ratings, anxiety and avoidance dimensions are calculated (as recommended by Bartholomew (2008)) using the following formulae:

$$\text{Attachment anxiety} = (\text{Preoccupation} + \text{Fearful-avoidance}) - (\text{Security} + \text{Dismissing-avoidance})$$

$$\text{Attachment avoidance} = (\text{Fearful-avoidance} + \text{Dismissing-avoidance}) - (\text{Security} + \text{Preoccupation})$$

In the current study, participants were asked to indicate the extent each of the descriptions reflected their feelings for the past week. As such, the wording of each description was rephrased slightly (e.g., “...I find it difficult to trust others completely...” was rephrased to “I have found it difficult to trust others completely...”).

Life satisfaction. In assessing life satisfaction longitudinally on a week-by-week basis, the SWLS was used but with instructions that were altered slightly, instructing participants to indicate the extent to which they agreed with each item for that week. The wording for each of the items was also slightly rephrased to better capture feelings of satisfaction for that week (e.g., “In most ways my life has felt close to my ideal”, “I have felt satisfied with my life”). For the relationship dissolution subsample, Cronbach’s alpha was .92 both pre- and post-relationship status change. For the relationship entry subsample, Cronbach’s alpha was also .92 both pre- and post-relationship status change.

Mood. The current study utilised the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) in order to measure mood. The PANAS is a 20-item Likert-type measure in which participants must indicate the extent to which they have experienced each affective item within a specified time-frame. In the current study, participants were asked to indicate their affective experience for the past week. The PANAS consists of two scales, positive and negative affect, with example positive items including “Excited”, “Strong”, and “Inspired” and example negative items including “Nervous”, “Upset”, and “Hostile”. For the positive scale, Cronbach’s alphas in the relationship dissolution sample were .92 pre-relationship change and .93 post-relationship change, while the alphas for the negative scale were .90 and .89. For the relationship entry sample, positive scale alphas were .92 for both pre- and post-relationship change and were .90 and .89 for the negative scale.

Self-esteem. Self-esteem was measured using the Rosenberg Self-Esteem Scale (1965). This scale consists of 10 Likert-type items in which participants must respond to each on a four-point scale (Strongly Agree, Agree, Disagree, Strongly Disagree). Example items include “At times, I think I am no good at all” and “All in all, I am inclined to feel that I am a failure”. Due to the longitudinal nature of the study in which participants were required to complete the measure on a weekly basis, the wording of each item was changed slightly to allow consideration for feelings of self-esteem over the week period (for example, “At times, I have felt I am no good at all”). For the

relationship dissolution sample, Cronbach's alpha was .93 pre-relationship change and was .92 post-relationship change. For the relationship entry sample, the alphas were .93 and .92.

Relationship Satisfaction Relationship satisfaction was measured each week using a 4-question measure created by Buunk et al. (2001) derived from the satisfaction subscale of Rusbult's (1983) relationship questionnaire. Similar to the SWLS, instructions were phrased to consider responses as applying to the past week. Responses for each question ranged from 1 ("Not at all") to 7 ("Very much"), with example questions including "In general, how satisfying have you felt your relationship to be?" and "How has your relationship compared to your ideal?". For the relationship dissolution sample, Cronbach's alpha was .94; for the relationship entry sample, Cronbach's alpha was .93.

Procedure

Participants who agreed to take part on a weekly basis beyond having completed the initial measures reported in Study 1A provided their e-mail address. They were informed that they were free to withdraw from the study at any time without penalty and that their contact information and data would be kept in a strictly confidential manner. Participants were contacted weekly (on the same day each week) via the e-mail addresses they provided to remind them when they were due to complete their weekly set of measures. As in the previous studies, measures were presented to participants and completed in a fixed order.

Results

Adult Attachment, Exiting a Relationship, and Well-Being

Individuals' attachment anxiety and avoidance were calculated using the attachment ratings reported the week their status change was first reported; it was reasoned that individuals' attachment-related feelings at that time would dictate their cognitive and affective reactions to their change in interpersonal circumstances.

Paired t-tests were performed to compare pre- and post-relationship dissolution well-being scores. As can be seen in Table 12, lower life satisfaction, self-esteem, and positive mood, as well as greater attachment anxiety, avoidance, and negative mood were reported by participants having just experienced a relationship termination.

Table 12. Pre- and post-relationship change values (leaving a relationship)

(Variable)	Pre-relationship status change	Post-relationship status change	t
Anxiety	-1.81 ± 4.78	-1.28 ± 4.86	-2.35*
Avoidance	-0.19 ± 3.80	0.20 ± 3.68	-2.26*
Life satisfaction	21.06 ± 7.57	19.50 ± 7.55	5.62***
Self-esteem	20.35 ± 6.36	19.40 ± 6.61	3.87***
Positive mood	3.16 ± 0.87	2.89 ± 0.91	6.95***
Negative mood	2.14 ± 0.86	2.23 ± 0.93	-2.23*

Mean ± Standard Deviation

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 1 predicted that, upon exiting a current relationship, greater scores in attachment anxiety would predict a greater decrease in life satisfaction, positive mood, and self-esteem and a greater increase in negative mood while greater avoidance would predict a lesser increase in negative and decrease in positive moods.

Before testing this hypothesis, individuals' well-being change scores were calculated by subtracting the scores they had reported the week previous to exiting their relationship from the scores reported in the first week of reporting having left that relationship.

Change in life satisfaction was the first well-being factor to be examined. Pre-relationship life satisfaction was entered at the first step while attachment anxiety, avoidance, and their interaction term were entered at the second step. The overall model was significant ($F = 24.52$ (4, 340) $p < .001$, with the model at the first step also being significant ($F = 31.02$ (3, 340) $p < .001$) and accounted for 21.7% of the variance (Adjusted R^2). Attachment anxiety ($\beta = -.31$, $p < .001$) significantly predicted change in life satisfaction whereas attachment avoidance ($\beta = .03$, $p = .54$) did not. However, the anxiety*avoidance interaction was significant ($\beta = .10$, $p < .05$) with a significant F change (F change = 4.15, $p < .05$) and is presented in Figure 5 (with slopes analyses presented in Table 13).

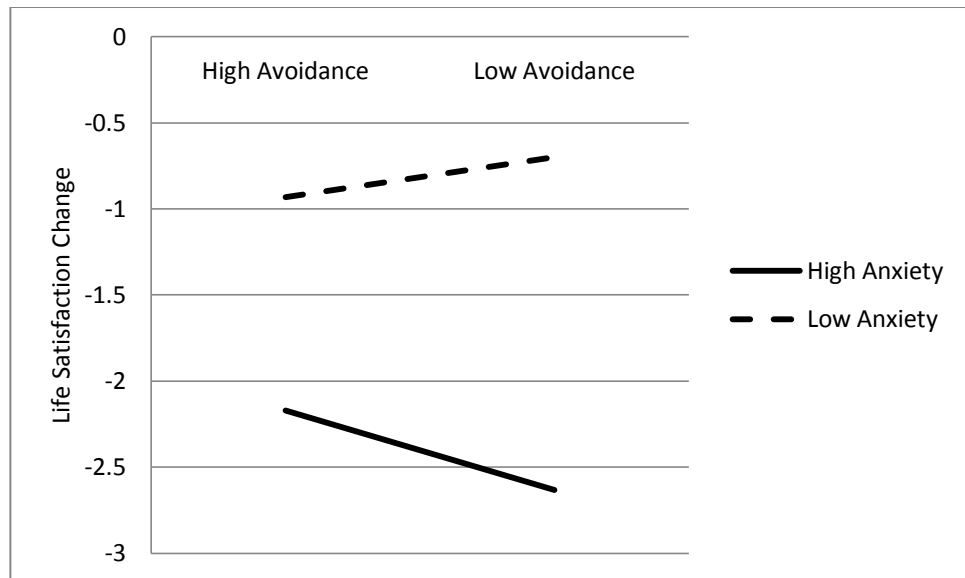


Figure 5. Adult Attachment as Predictor of Change in Life Satisfaction (Relationship Exit)

Table 13. Simple Slopes Analyses for Attachment and Change in Life Satisfaction

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	-3.59**
Secure and Preoccupied	-6.77**
Fearful-avoidant and Preoccupied	1.54
Secure and Dismissing-avoidant	-0.71

** $p < .01$

As suggested in the above Figure, individuals fitting a secure attachment classification (low anxiety and avoidance) experienced the smallest decrease in life satisfaction subsequent to a relationship break-up, with individuals fitting a dismissing (high avoidance/low anxiety) classification reporting similarly. Individuals fitting a preoccupied (high anxiety/low avoidance) attachment classification reported the greatest decrease in life satisfaction, suggesting that, for such individuals, relationship break-up has the most negative impact on their overall satisfaction with the quality of their lives (slopes analyses however indicated that the fearful-avoidant and preoccupied ‘groups’ trajectories did not significantly differ and similarly for the secure and dismissing-avoidant ‘groups’).

Next, self-esteem change was entered as the dependent variable and was regressed onto anxiety, avoidance while controlling for baseline self-esteem (first step) and their interaction term (second step). The model at the second step was significant ($F = 26.49$ (4, 340) $p < .001$; F change = 8.10, $p < .01$) and accounted for 23.1% of the variance

(Adjusted R^2). Anxiety ($\beta = -.36$, $p < .001$) and its interaction with avoidance ($\beta = .14$, $p < .01$) were significant predictors, while avoidance was not ($\beta = -.07$, $p = .17$). Figure 6 presents the interaction, with Table 14 presenting the results of slopes analyses.

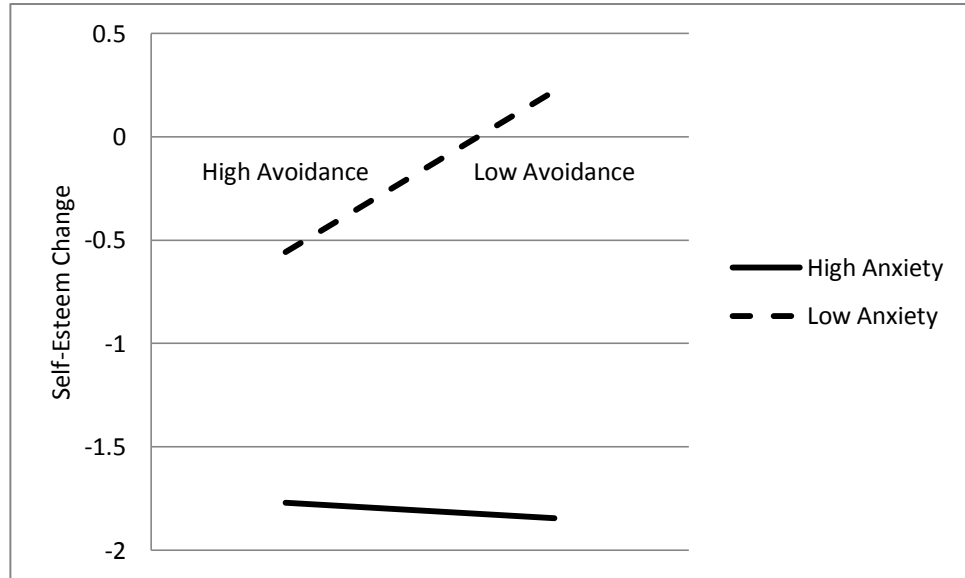


Figure 6. Adult Attachment as Predictor of Change in Self-Esteem (Relationship Exit)

Table 14. Simple Slopes Analyses for Attachment and Change in Self-Esteem

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	-3.81**
Secure and Preoccupied	-7.94***
Fearful-avoidant and Preoccupied	.27
Secure and Dismissing-avoidant	-2.78*

* $p < .05$

** $p < .01$

*** $p < .001$

The above results suggest a similar pattern for self-esteem change as with life satisfaction; individuals fitting a preoccupied (high anxiety/low avoidance) attachment classification reported the greatest decrease in self-esteem subsequent to a current relationship ending, with high-anxiety/avoidance (fearful) individuals reporting similarly. Slopes analyses revealed these two sets of change scores to not significantly differ from one another.

Next positive mood change was regressed onto pre-relationship positive mood, attachment anxiety, avoidance (first step), and their interaction term (second step). The

model at the second step was significant ($F = 24.58 (4, 341) p < .001$), as well as at the first ($F = 32.04 (3, 340) p < .001$) and accounted for 21.7% of the variance (Adjusted R^2). The F change however was not significant ($F \text{ change} = 1.32, p = .25$); neither attachment avoidance ($\beta = -.07, p = .16$) nor its interaction with anxiety ($\beta = .06, p = .25$) were significant predictors of change in positive mood, however attachment anxiety significantly predicted change in positive mood ($\beta = -.34, p < .001$), suggesting that higher scores in anxiety predict a greater decrease in positive mood upon experiencing a relationship breakdown (see Figure 7).

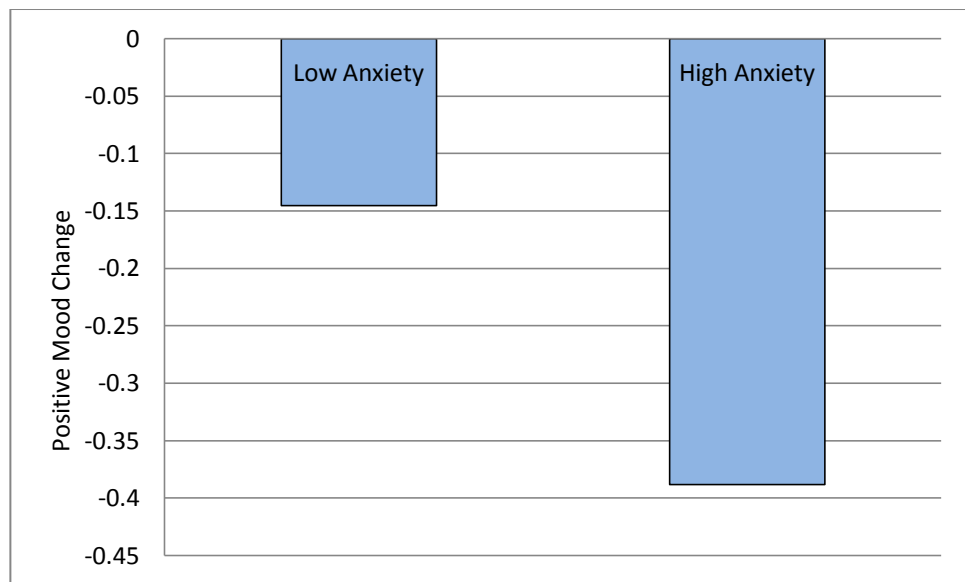


Figure 7. Attachment Anxiety as Predictor of Change in Positive Mood (Relationship Exit)

The model at the first step for the negative mood change was significant ($32.08 (3, 340) p < .001$), and similarly at the second step ($F = 24.66 (4, 340) p < .001$) accounting for 21.7% of the variance (Adjusted R^2). However the F change was not significant ($F \text{ change} = 2.09, p = .15$), with a non-significant finding for the interaction between anxiety and avoidance consistent with this ($\beta = -.07, p = .15$). However, both attachment anxiety ($\beta = .32, p < .001$) and avoidance ($\beta = .09, p = .05$) were significant independent predictors (see Figure 8).

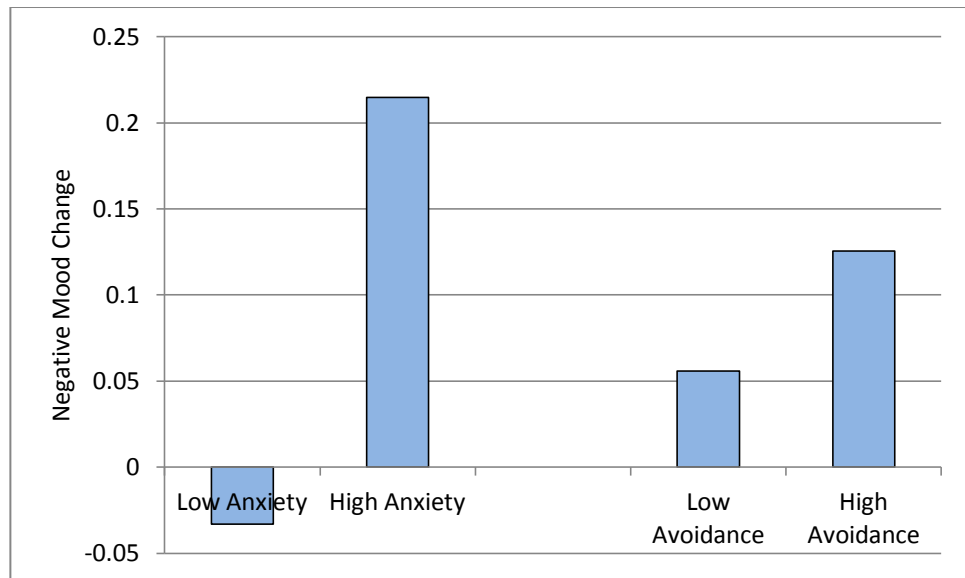


Figure 8. Attachment Anxiety and Avoidance as Predictors of Change in Negative Mood (Relationship Exit)

Hypothesis 1 was therefore partially supported. As attachment anxiety increases, relationship dissolution brings about more negative feelings regarding the self and overall satisfaction with life, and more negative and less positive moods. As attachment avoidance increases, meanwhile, relationship dissolution appears to bring about a greater increase in negative mood only.

Hypothesis 2 put forward that satisfaction with, and length of, the terminated relationship would moderate the association between changes in attachment anxiety and well-being. For the former, anxiety, relationship satisfaction, and their interaction term were entered separately into the regression equation for each of the well-being factors, with the pre-relationship breakup well-being score entered as a control. Table 15 presents results.

Table 15. Attachment anxiety, relationship satisfaction, and well-being factors (relationship exit)

Well-being (Adjusted R ²)	Model	B	SE B	β	R ² Change	F Change
<i>Life Satisfaction</i> (20.7%) (F = 23.14 (4,340) p <.001)	Anxiety	-.35	.05	-.33***		
	Satisfaction	-.04	.17	-.01	.22	30.90***
	Anx*Sat	-.01	.03	-.02	.00	.11
<i>Self-esteem</i> (21.3%) (F = 24.04 (4,340) p <.001)	Anxiety	-.36	.05	-.38***		
	Satisfaction	-.18	.15	-.06	.22	31.81***
	Anx*Sat	-.02	.03	-.04	.00	.77
<i>Positive Mood</i> (23.1%) (F = 26.56 (4,340) p <.001)	Anxiety	-.05	.01	-.34***		
	Satisfaction	-.07	.02	-.16**	.24	35.51***
	Anx*Sat	-.00	.00	-.00	.00	.00
<i>Negative Mood</i> (22.4%) (F = 52.48 (3,340) p <.001)	Anxiety	.05	.01	.32***		
	Satisfaction	.06	.02	.13**	.23	33.56***
	Anx*Sat	-.00	.00	.05	.00	1.19

**p < .01

***p < .001

As can be seen in the above Table, none of the interactions between anxiety and relationship satisfaction was a significant predictor of changes in well-being upon exiting a current relationship. Relationship satisfaction was also found not to be an independent predictor of changes in life satisfaction or self-esteem, however it was found to predict changes in positive and negative mood. Figures 9 and 10 present the results, demonstrating that for individuals reporting high relationship satisfaction, a relationship break-up brings about a greater decrease in positive mood and greater increase in negative mood.

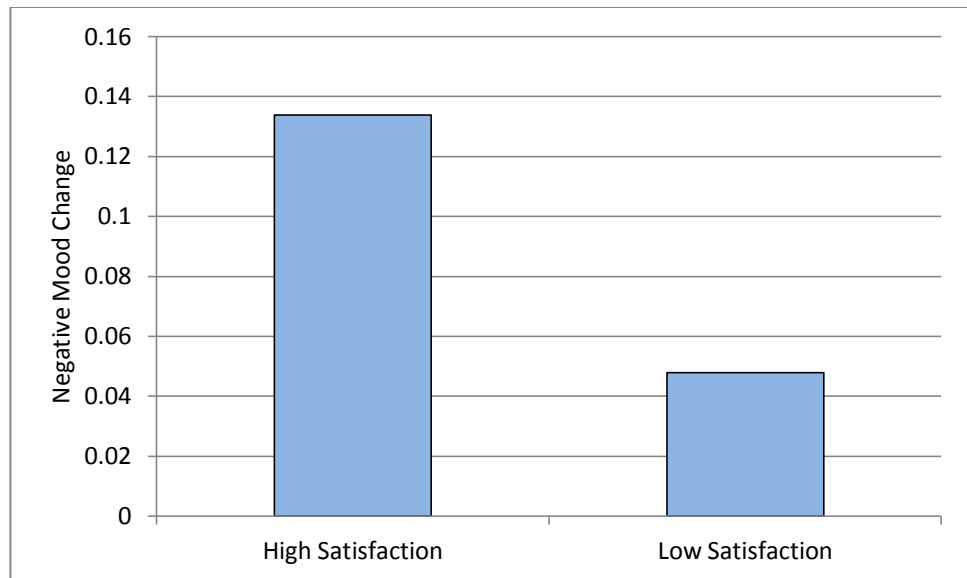


Figure 9. Relationship Satisfaction as Predictor of Change in Negative Mood (Relationship Exit)

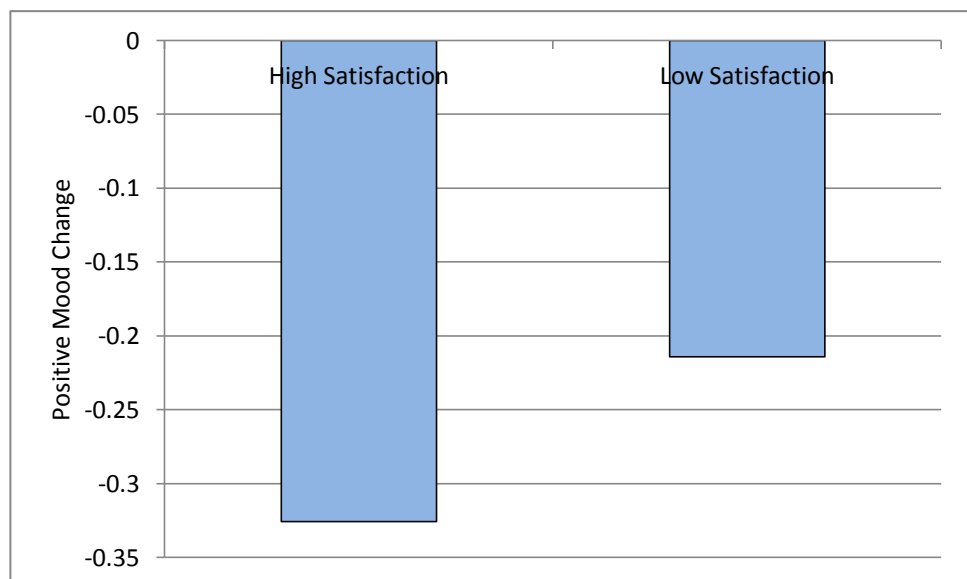


Figure 10. Relationship Satisfaction as Predictor of Change in Positive Mood (Relationship Exit)

Lastly, length of relationship was not found to be a significant predictor of changes in any of the well-being factors and as such, Hypothesis 2 was not supported.

Adult Attachment, Entering a Relationship, and Well-Being

Paired t-tests were performed to compare pre- and post-relationship entry well-being scores. As can be seen in Table 16, greater life satisfaction, self-esteem, and positive mood, as well as lower anxiety, avoidance, and negative mood were reported by

participants having just entered into a new relationship. Feelings of avoidance, however, did not change significantly.

Table 16. Pre- and post-relationship change values (entering into a relationship)

	Pre-relationship status change	Post-relationship status change	Mean difference	t
Anxiety	-1.82 ± 4.88	-2.57 ± 4.44	-.75	3.52***
Avoidance	-.26 ± 3.49	-.32 ± 3.49	-.06	.41
Life Satisfaction	21.16 ± 7.37	22.58 ± 7.22	1.42	-5.76***
Self-esteem	20.20 ± 6.21	21.02 ± 6.01	.82	-3.65***
Positive Mood	3.12 ± 0.89	3.33 ± .87	.21	-5.75***
Negative Mood	2.05 ± 0.84	1.96 ± .77	-.09	2.27**

Mean ± Standard Deviation

** $p < .01$

*** $p < .001$

Hypothesis 3 predicted that lower scores in attachment anxiety would predict greater increases in life satisfaction, greater increased positive and greater decreased negative moods, and a greater increase in self-esteem upon entering into a new relationship. Greater scores in attachment avoidance meanwhile were hypothesised to predict lesser increase in positive and lesser decrease in negative moods only.

As in the relationship exit data, individuals' attachment anxiety and avoidance scores were calculated using the attachment ratings reported the first week the change in relationship status was reported. Individuals' well-being change scores were calculated by subtracting the scores they had reported the week previous to entering a relationship from the scores reported in the first week of having entered a new relationship.

Firstly, life satisfaction was examined. Pre-relationship change life satisfaction was entered as a control on the first step with attachment anxiety and avoidance, and their interaction term (anxiety*avoidance) was entered on the second. The overall model was significant ($F = 25.60$ (4, 379) $p < .001$) and accounted for 20.6% of the variance (Adjusted R^2). Both attachment anxiety ($\beta = -.21$, $p < .001$) and avoidance ($\beta = -.17$, $p < .001$) were significant predictors of change in life satisfaction upon entering a new relationship; their interaction term however was not ($\beta = -.03$, $p = .60$).

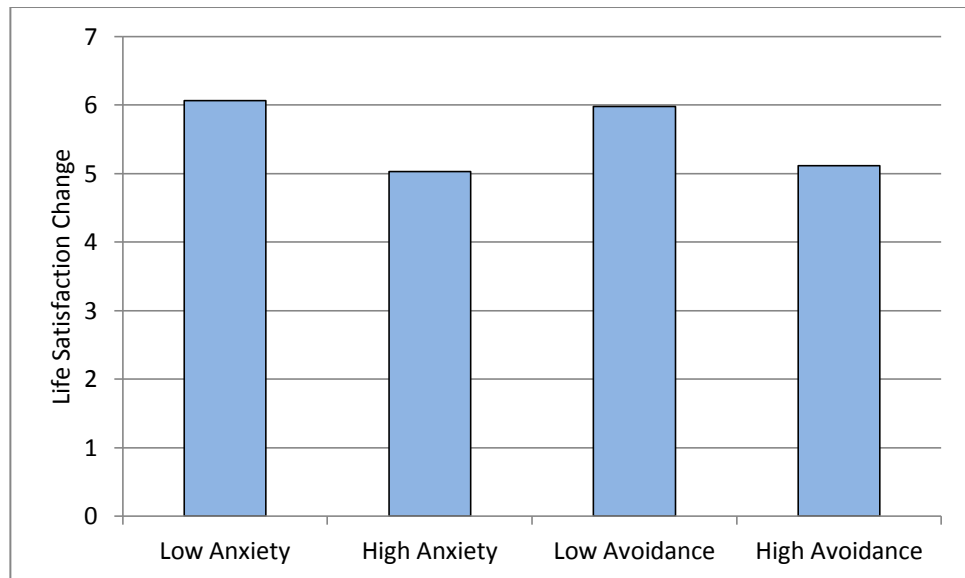


Figure 11. Attachment Anxiety and Avoidance as Predictors of Change in Life Satisfaction (Relationship Entry)

Examination of the above Figure suggests that, independently, while both high and low levels of anxiety and avoidance predict an increase in life satisfaction upon entering a new relationship, scoring high on either attachment dimension brings about a lesser increase.

The model for self-esteem change was also significant ($F = 39.55$ (4, 379) $p < .001$), accounting for 28.9% of the variance (Adjusted R^2). Both attachment anxiety ($\beta = -.37$, $p < .001$) and avoidance ($\beta = -.14$, $p < .01$) were significant predictors while their interaction was not. For individuals high in attachment anxiety, entry into a new relationship saw little change in self-esteem, while for individuals low in anxiety a new relationship saw a greater increase. Conversely, while both high and low avoidance scores appear predictive of an increase in self-esteem, the latter predicts a greater increase than the former.

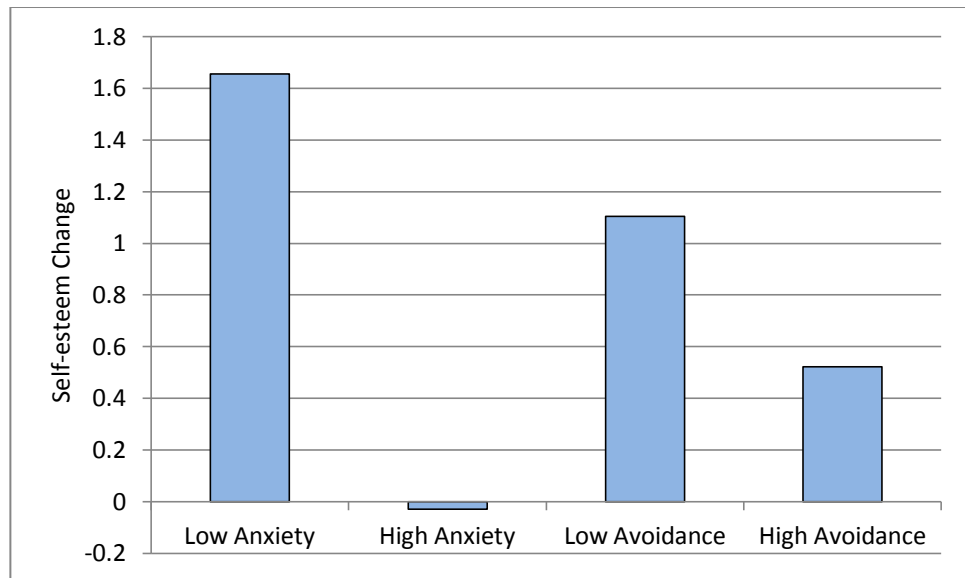


Figure 12. Attachment Anxiety and Avoidance as Predictors of Change in Self-Esteem (Relationship Entry)

Next, positive mood change was examined with the model found to be significant also ($F = 34.25$ (4,379) $p < .001$), accounting for 26.0% of the variance. Similar to both life satisfaction and self-esteem, anxiety ($\beta = -.29$, $p < .001$) and avoidance ($\beta = -.11$, $p < .05$) were both significant predictors of changes in positive mood upon entering into a new relationship but their interaction term was not.

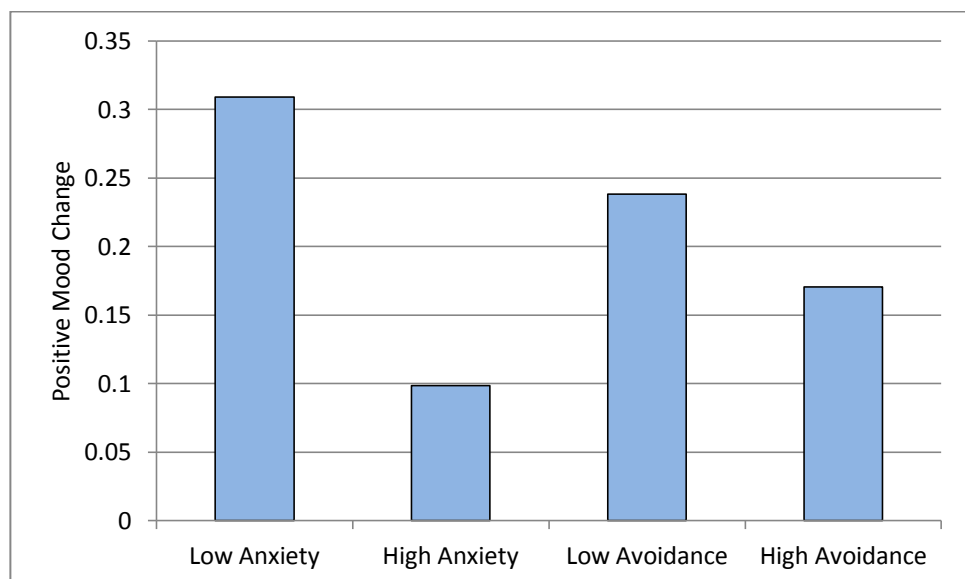


Figure 13. Attachment Anxiety and Avoidance as Predictors of Change in Positive Mood (Relationship Entry)

Examination of the above Figure suggests that, similar to changes in life satisfaction, both high and low levels of anxiety and avoidance predict an increase in positive mood upon entering into a new relationship, scoring high on either dimension brings about a lesser increase.

Lastly, the model for negative mood was significant ($F = 43.3$ (4, 379) $p < .001$) and accounted for 30.9% of the variance. Attachment anxiety was identified as the sole significant predictor of change in negative mood ($\beta = .26$, $p < .001$) and is presented in Figure 14. For individuals high in attachment anxiety, a new relationship commencing saw little change to their negative mood, while a decrease was evidenced for individuals low in anxiety.

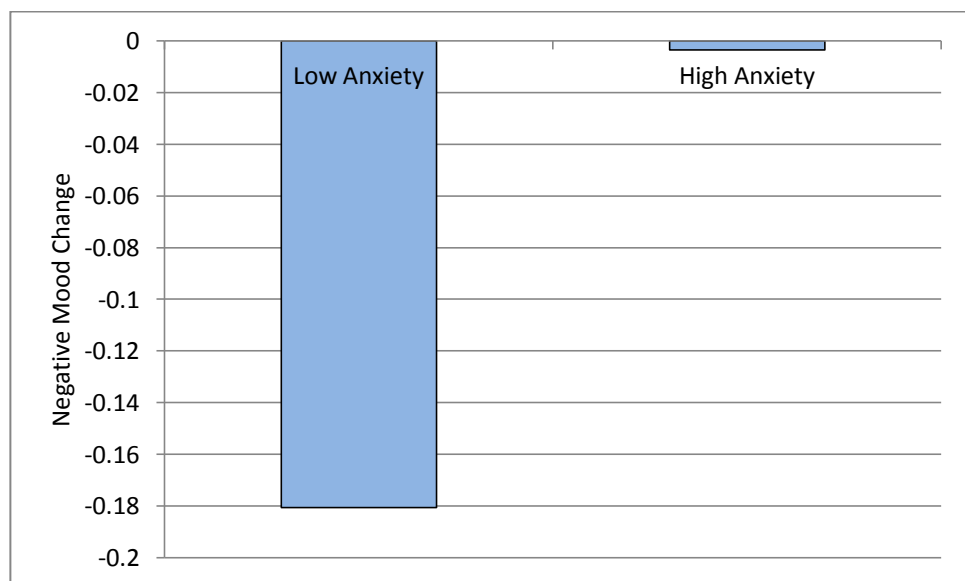


Figure 14. Attachment Anxiety as Predictor of Change in Negative Mood (Relationship Entry)

Attachment Anxiety, Relationship Satisfaction, and Well-Being.

Hypothesis 4 predicted satisfaction with the new relationship to moderate the association between attachment anxiety and changes in well-being (life satisfaction, positive and negative mood, and self-esteem). Both attachment anxiety and relationship satisfaction scores were entered along with their interaction term into the regression equation. All betas, p values, R^2 and F change values are presented in Table 17. For each of the above listed well-being factors, while attachment anxiety and relationship satisfaction each predicted changes in well-being upon entering a relationship, their interactions did not. Therefore, Hypothesis 4 was not supported and relationship

satisfaction did not moderate the association between attachment anxiety and changes in well-being.

Table 17. Attachment anxiety, relationship satisfaction, and well-being factors (relationship entry)

Well-Being (Adjusted R²)	Model	B	SE B	β	R² Change	F Change
<i>Life Satisfaction</i> (25.6%) F = 33.58 (4,379) p < .001	Anxiety	-.20	.05	-.18***		
	Satisfaction	1.06	.17	.31***	.21	34.11***
	Anx*Sat	-.00	.04	-.01	.00	.28
<i>Self-esteem</i> (32.7%) F = 46.97 (4,379) p < .001	Anxiety	-.32	.05	-.33***		
	Satisfaction	.76	.14	.24***	.30	52.86***
	Anx*Sat	.00	.03	.01	.00	.02
<i>Positive Mood</i> (31.4%) F = 44.40 (4,379) p < .001	Anxiety	-.04	.01	-.24***		
	Satisfaction	.13	.02	.27***	.27	45.52***
	Anx*Sat	-.00	.01	-.01	.00	.58
<i>Negative Mood</i> (32.6%) F = 36.90 (3,379) p < .001	Anxiety	.03	.01	.23***		
	Satisfaction	-.07	.02	-.14**	.32	57.87***
	Anx*Sat	-.00	.01	.01	.00	.04

*p < .05

**p < .01

***p < .001

Study 1D: Adult Attachment and Changes in Well-being

The focus of the final part of Study 1 (D) was on examining how attachment anxiety and avoidance predict differences in changes in well-being following a relationship status change. Whereas Study 1C focused on identifying immediate changes in well-being in response to a relationship either starting or ending, the current study sought to examine how feelings of well-being change in the weeks subsequent to these relationship events. Previous research examining post-relationship dissolution experiences has found high anxiety to be associated with increased distress (Davis et al., 2003; Feeney & Noller, 1992; Fraley & Shaver, 1998; Sprecher et al., 1998) as well as feelings of self-reproach (Pistole, 1996), guilt, and blame. Furthermore, high anxiety individuals appear to demonstrate a preoccupation with the lost relationship and partner that interferes with their day-to-day activities (Davis et al., 2003), suggesting that for such individuals emotional recovery is a more intense and lengthy process. Attachment avoidance meanwhile is negatively associated with post-relationship distress (Feeney &

Noller, 1992; Simpson, 1990) and a coping strategy that favours self-reliance over seeking comfort from others (Davis et al., 2003). On these bases, the following hypothesis concerning relationship dissolution was made:

Hypothesis 1. Subsequent to relationship dissolution, greater attachment anxiety will predict both lower levels of well-being (that is, decreased life satisfaction, self-esteem and positive mood, and increased negative mood) and a slower increase in these well-being factors over time. While avoidance on its own is not anticipated to predict changes over time, its interaction with anxiety is. As such, individuals high in both anxiety and avoidance (fearful) are anticipated to report the lowest levels of well-being with minimal improvement over time; individuals low in anxiety and avoidance (secure) meanwhile are predicted to report the highest levels of well-being that similarly change little over time (that is, secure individuals' well-being is anticipated to be resilient against a relationship breakdown and hence remain high, while fearful-avoidant individuals are anticipated to be resilient to improvement over time due to the negative cognitions that are encompassed by their anxiety and avoidance and hence well-being should remain low). Individuals high in anxiety and low in avoidance (preoccupied) are predicted to report similarly low well-being to fearful individuals upon initial breakdown but to report a gradual increase over time. Lastly, the findings of Study 1A suggested that individuals fitting a dismissing attachment classification (low anxiety and high avoidance) reported lower life satisfaction when they were in a relationship. As such, it is hypothesised that, subsequent to a relationship breakdown such individuals should report well-being that is lower than secures but that which increases at a faster rate than their preoccupied counterparts.

Research on examining cognitive and emotional responses to new relationship formation is more limited. However, the following hypothesis was made:

Hypothesis 2. Across the weeks subsequent to entering into a new relationship, greater attachment avoidance is anticipated to predict decreases in well-being. The basis of this hypothesis lies in the changing levels of intimacy as a relationship progresses. Early-stage relationships are typically characterised by physical, rather than emotional, closeness with couples desiring close contact and physical intimacy (e.g., Berscheid, 1985). At this point, emotional investment in the developing relationship is limited and

therefore should not give rise to avoidant individuals' discomfort with intimacy. However, it is as the relationship progresses that emotional intimacy needs increase (e.g., Reedy, Birren, & Schaie, 1981). Research has consistently identified avoidant individuals to react negatively to situations in which support-seeking is required, leading to feelings of distress and discomfort (e.g., Rholes et al., 1998; Rholes et al., 1999). Therefore, due to levels of intimacy increasing as relationships develop, greater avoidance is anticipated to predict decreases in well-being over time as a consequence.

Method

Participants

Similar to the two subsamples created for Study 1C, two subsamples were created for the present study. For each subsample of participants who had either exited a current relationship or entered into a new one, participants were selected if they had completed at least two sets of weekly questionnaires subsequent to having reported a relationship status change.

The sample for leaving a relationship comprised 355 participants, 257 (72.4%) of whom were female and 98 (27.6%) of whom were male. Age ranged from 18 to 71 ($M = 29.14$, $SD = 9.36$). Three hundred and ten (87.3%) identified themselves as heterosexual, 15 (4.2%) as homosexual, and 30 (8.5%) as bisexual. The majority of the sample resided within the United Kingdom (125, 35.2%) and United States (128, 36.1%). Of the remaining sample, 14 resided in Brazil and 20 resided in Canada, with the rest of the sample being spread internationally.

The sample for entering into a new relationship comprised 361 participants, 264 (73.1%) of whom were female and 97 (26.9%) of whom were male. Age ranged from 18 to 71 ($M = 29.88$, $SD = 10.17$). Three hundred and twenty six (90.3%) participants reported themselves to be heterosexual, 8 (2.2%) as homosexual, 26 (7.2%) as bisexual, and 1 (0.3%) as "Other". As previously, the majority of the sample resided in the United Kingdom (143, 39.6%) and United States (119, 33.0%) with the remaining sample being spread internationally.

Measures and Procedure

The data for the current study was collected simultaneously to the data collected for Study 1C. As such, all measures included in this earlier study were utilised for the current study also and in accordance with the same procedure.

Data Analysis

In order to examine changes in well-being over time subsequent to a relationship status change, multi-level modelling (MLM) was required. Multi-level modelling is an analytic technique that allows for the simultaneous, but separate (Arnold, 1992) examination of *within-person* change and *between-person* differences in change (Singer & Willett, 2003). Whereas early research examining change typically relied upon the analytic strategy of either aggregating Level 1 data or including both levels (that is, Level 1 within-persons and Level 2 between-persons) in the same regression equation, the loss of information and accuracy (see Arnold, 1992, and West & Hepworth, 1991) in this limited analytic technique is addressed by MLM through its use of maximum likelihood estimation. Maximum likelihood estimation, or MLE, can be understood as the likelihood of observed data in a given sample being the result of unknown population parameters. The advantages of this method of statistical estimation lie in its asymptotic properties, such that estimates are consistent and efficient. More specifically, they are asymptotically unbiased and normally distributed (that is, converge on the unknown true values of parameters) and produce smaller standard errors than those produced in other statistical estimation methods (Singer & Willett, 2003).

The nature of the data in the current study lends itself well to multi-level analysis due to its bi-level structure, namely, a Level 1 submodel comprising within-person changes in well-being, which is nested within a Level 2 submodel of between-person differences in attachment anxiety, avoidance, and their interaction. Examination of the weekly means of life satisfaction, self-esteem, and positive and negative moods suggested that a linear change model would provide the best fit for the current data. As such, the Level 1 submodel was structured as:

$$Y_{ij} = \beta_{0i} + \beta_{1i}TIME_{ij} + \varepsilon_{ij}$$

where Y_{ij} represents the well-being variable (either life satisfaction, self-esteem, positive mood or negative mood) of individual i at time j , β_{0i} represents the intercept of the change trajectory, β_{1i} represents the slope, and ε_{ij} represents random error. Time in this instance was measured in days and was centred at the first data point in which the participant indicated they had changed their relationship status.

For each parameter in the Level 1 submodel, there is an accompanying Level 2 submodel; in the above equation, there are two parameters, the intercept (β_{0i}) and the slope (β_{1i}), and as such the Level 2 equations were structured as:

$$\beta_{0i} = \gamma_{00} + \gamma_{01}Anxiety_i + \gamma_{02}Avoidance_i + \gamma_{03}Anxiety*Avoidance_i + \zeta_{0i}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11}\text{Anxiety}_i + \gamma_{12}\text{Avoidance}_i + \gamma_{13}\text{Anxiety}*\text{Avoidance}_i + \zeta_{1i}$$

where γ_{00} and γ_{10} represent the Level-2 intercepts, gamma coefficients γ_{01} through to γ_{13} represent the effect of individual i 's attachment dimension scores on the change trajectories, and ζ_{0i} and ζ_{1i} represent random error.

Results

Relationship Exit

Hypothesis 1 predicted differences in well-being changes upon exiting a current relationship on the basis of individuals' anxiety and avoidance. Multi-level analysis was carried out individually for each of life satisfaction, self-esteem, positive mood and negative mood; anxiety, avoidance, and days since the relationship breakup were entered into the regression equation along with their two-way interactions and the final three-way interaction. The results are presented in Table 18.

Table 18. Anxiety and Avoidance as predictors of changes in well-being after relationship dissolution

Model	Coefficient	Standard Error	t
Life Satisfaction			
Intercept	20.09	.34	59.43***
Time	.01	.00	3.66***
Anxiety	-.36	.03	11.13***
Avoidance	-.16	.04	-3.94***
Anxiety*Avoidance	.04	.01	3.88***
Time*Anxiety	-.00	.00	-.62
Time*Avoidance	.00	.00	.19
Time*Anxiety*Avoidance	-.00	.00	-2.82**
Self-esteem			
Intercept	19.86	.26	75.08***
Time	.01	.00	3.28***
Anxiety	-.44	.03	14.86***
Avoidance	-.19	.04	-4.97***
Anxiety*Avoidance	.04	.01	3.58***
Time*Anxiety	.00	.00	.12
Time*Avoidance	.00	.00	.83
Time*Anxiety*Avoidance	-.00	.00	-2.13*
Positive Mood			
Intercept	3.00	.04	74.37***
Time	.00	.00	1.89 ^a
Anxiety	-.06	.01	10.40***
Avoidance	-.04	.01	-6.10***
Anxiety*Avoidance	.01	.00	3.84***
Time*Anxiety	-.00	.00	-.25
Time*Avoidance	.00	.00	1.71 ^a
Time*Anxiety*Avoidance	-.00	.00	-3.16**
Negative Mood			
Intercept	2.17	.04	57.57***
Time	-.00	.00	-4.55***
Anxiety	.06	.00	12.56***
Avoidance	.02	.01	2.80**
Anxiety*Avoidance	-.01	.00	-3.18**
Time*Anxiety	-.00	.00	-.86
Time*Avoidance	.00	.00	1.71 ^a
Time*Anxiety*Avoidance	.00	.00	3.22***

* $p < .05$

** $p < .01$

*** $p < .001$

^a $p = \text{marginal}$

The three-way interactions between anxiety, avoidance, and days since relationship breakup were significant predictors for each of life satisfaction ($\gamma_{13} = -.00$, $t(1476.15) = -2.82$, $p < .01$), self-esteem ($\gamma_{13} = -.00$, $t(1455.02) = -2.13$, $p < .05$), positive

mood ($\gamma_{13} = -.00$, $t(1588.74) = -3.16$, $p < .01$), and negative mood ($\gamma_{13} = -.00$, $t(1578.56) = 3.22$, $p < .001$). Figure 15 presents the trajectories for life satisfaction as predicted by the three-way interaction between time, anxiety, and avoidance at the time points of the initial breakup and 1 and 2 standard deviations subsequent to this. Table 19 presents the results of slopes analyses.

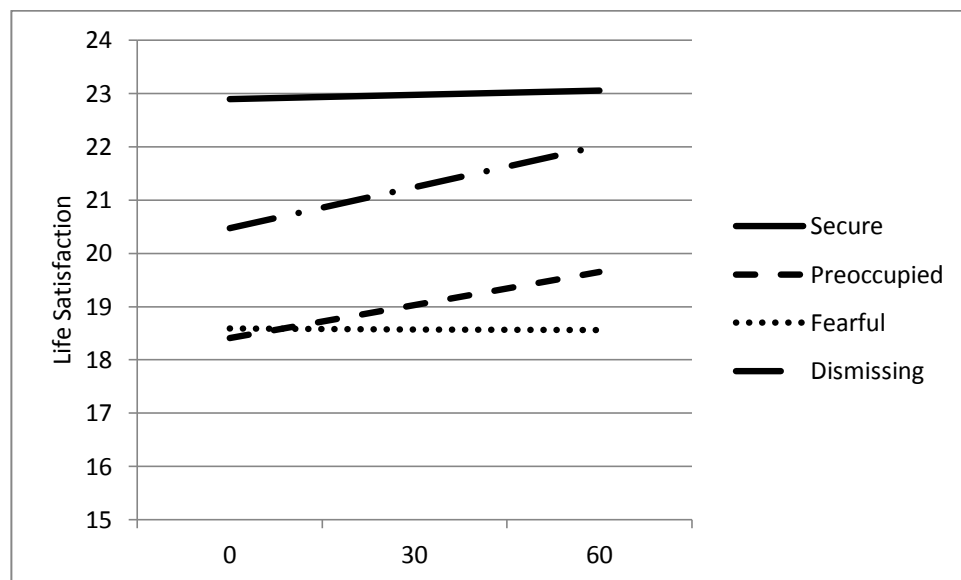


Figure 15. Attachment Anxiety, Avoidance, and Time (Days) as Predictors of Life Satisfaction Change

Table 19. Simple Slopes Analyses for Anxiety, Avoidance and Time Trajectories (Life Satisfaction)

Differences	t
Secure	-.08
Dismissing-avoidant	3.53***
Preoccupied	3.00**
Fearful-avoidant	.41

** $p < .01$

*** $p < .001$

The trajectory for individuals fitting a secure attachment classification (low anxiety/low avoidance) shows overall satisfaction with life to be the highest out of the four possible classifications and to remain steady over time. Individuals fitting dismissing (low anxiety/high avoidance) and preoccupied (high anxiety/low avoidance) both report increases in life satisfaction over time, with the former reporting a greater increase over the latter. Lastly, individuals fitting a fearful-avoidant classification (high anxiety/high avoidance) remain steadily low in their life satisfaction, reporting no

change over time (see Table 19 for slopes analyses). Hypothesis 1 was therefore supported with regards to life satisfaction: individuals fitting secure and fearful attachment classifications, subsequent to having experienced a relationship breakdown, saw little change to their evaluations of the overall quality of their lives, with the former remaining satisfied and the latter remaining dissatisfied. For individuals fitting dismissing and preoccupied attachment classifications, trajectories followed the hypothesised patterns, with dismissing-avoidance showing a greater increase across time than preoccupation, suggesting the latter to have a slower rate of recovery from a dissolution experience.

Next, the results for self-esteem are presented in Figure 16.

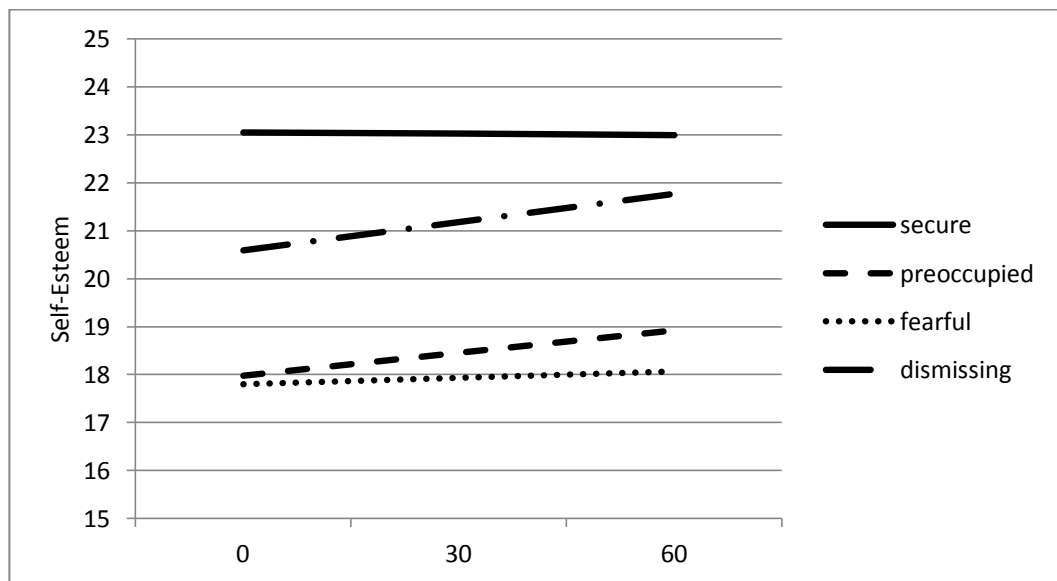


Figure 16. Attachment Anxiety, Avoidance, and Time (Days) as Predictors of Self-Esteem Change

Table 20. Simple Slopes Analyses for Anxiety, Avoidance and Time Trajectories (Self-Esteem)

Differences	t
Secure	-.18
Dismissing-avoidant	2.94**
Preoccupied	2.46**
Fearful-avoidant	.73

** $p \leq .01$

*** $p < .001$

The trajectories for changes in self-esteem follow similar patterns to those for changes in life satisfaction: individuals fitting secure and fearful-avoidant classifications report steady levels of self-esteem across the three time points, while dismissing-avoidant and preoccupied individuals report increases in self-esteem as time progresses with the former increasing at a greater rate than the latter. The findings for self-esteem then provide additional support for Hypothesis 1.

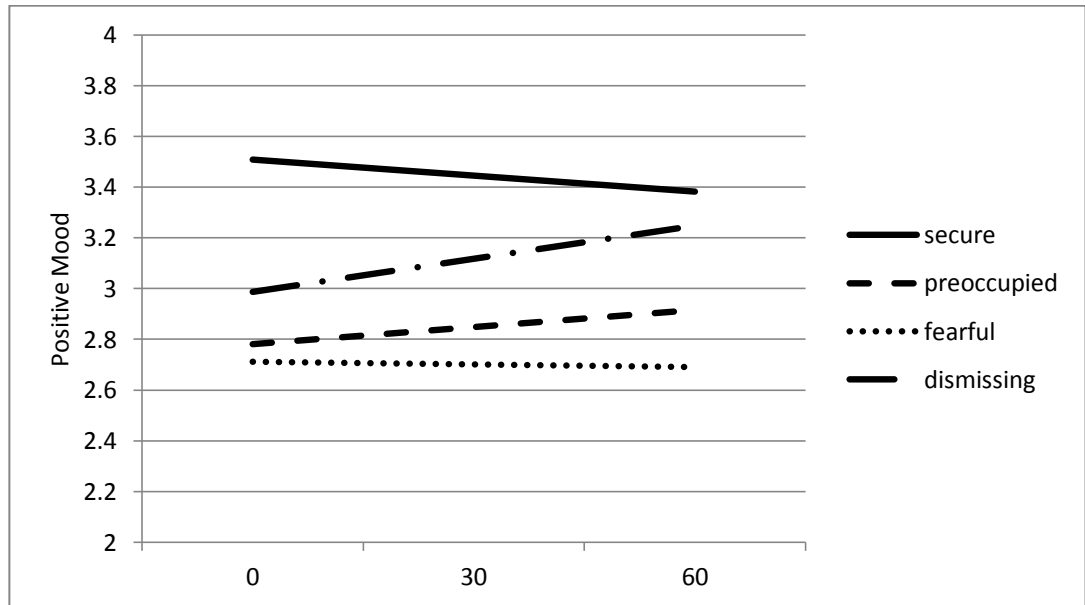


Figure 17. Attachment Anxiety, Avoidance, and Time (Days) as Predictors of Positive Mood Change

Table 21. Simple Slopes Analyses for Anxiety, Avoidance and Time Trajectories (Positive Mood)

Differences	t
Secure	-1.91*
Dismissing-avoidant	3.43***
Preoccupied	1.86*
Fearful-avoidant	.32

* $p < .05$

** $p < .01$

*** $p < .001$

Figure 17 presents the results for changes in positive mood (while Table 21 shows the results of slopes analyses). Individuals fitting a fearful-avoidant classification reported the lowest positive mood that remained steadily low across time. The findings for individuals fitting dismissing-avoidant and preoccupied classifications replicate

those found for life satisfaction and self-esteem, with increased positive mood reported across the three time points, further supporting Hypothesis 1. However, the results suggest that low anxiety/low avoidance (fitting a secure classification) individuals' positive mood decreases across the two time points subsequent to their relationship having ended.

Lastly, Figure 18 presents the results for changes in negative mood and Table 22 the slopes analyses results.

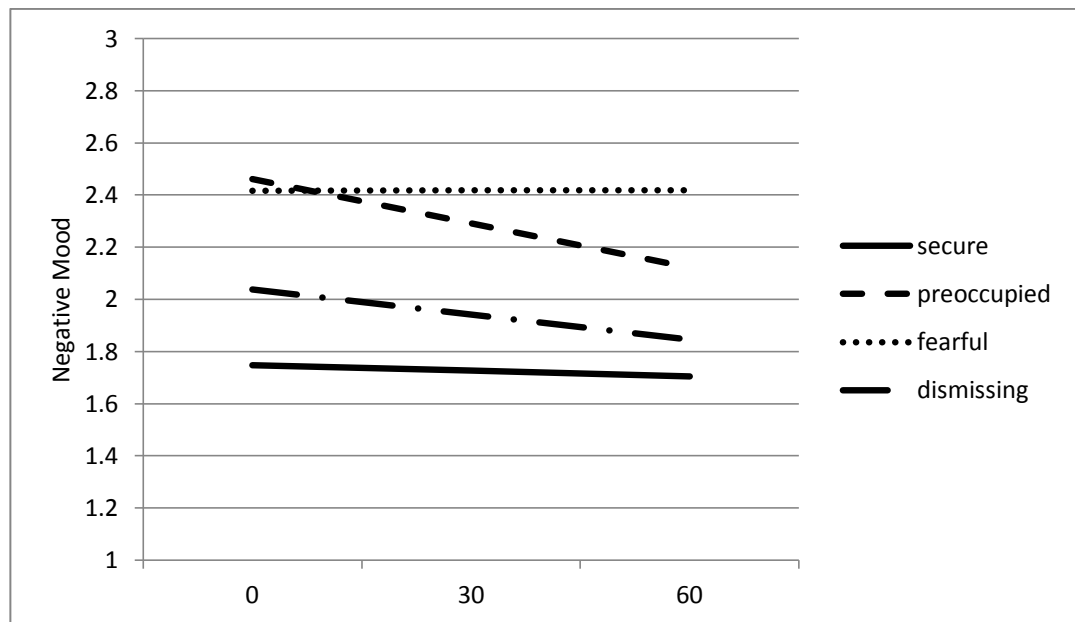


Figure 18. Attachment Anxiety, Avoidance, and Time (Days) as Predictors of Negative Mood Change

Table 22. Simple Slopes Analyses for Anxiety, Avoidance and Time Trajectories (Negative Mood)

Differences	t
Secure	-.69
Dismissing-avoidant	-2.78**
Preoccupied	-5.18***
Fearful-avoidant	.02

** $p < .01$

*** $p < .001$

The results for changes in negative mood reinforce those found for positive mood; whereas individuals fitting a fearful-avoidant classification showed a steady low positive mood across time, here the results suggest a complementary pattern of reporting the

highest negative mood out of the four classifications, which remained steady across the three time points. Similarly, dismissing-avoidant and preoccupied individuals reported decreases in negative mood across time, with the latter reporting greater negative mood as well as a greater rate of decrease than the former. Secure individuals' negative mood meanwhile remained steadily low.

Taken together, the results of changes in life satisfaction, self-esteem, and positive and negative moods supported Hypothesis 1: individuals high in both anxiety and avoidance (fearful-avoidant) reported the lowest levels of well-being with minimal improvement over time. Their satisfaction with life, self-esteem, and positive and negative affective experience appeared not to change from the point at which they had left their relationship. Individuals high in anxiety and low in avoidance (preoccupied) reported similar levels of well-being to fearful individuals at the point of relationship breakup, but differed subsequent to this point, instead showing cognitive and affective recovery across time. Individuals high in avoidance and low in anxiety (dismissing) showed similar improvements in well-being in time (although at increased rates), however their levels of satisfaction, self-esteem and mood showed greater general levels of well-being in comparison to their preoccupied counterparts. Lastly, low anxiety and avoidance individuals (secure) reported steady levels of increased well-being compared to their insecure counterparts. Positive mood appeared to be the exception to this pattern, however, suggesting that their positive mood decreases slightly across time.

Relationship Entry

Hypothesis 2 predicted differences in well-being changes upon entering a new relationship on the basis of individuals' feelings of anxiety and avoidance. Replicating the analytic strategy adopted for the relationship exit data, multi-level analysis was performed for each of life satisfaction, self-esteem, and positive and negative mood individually. Anxiety, avoidance, and days since the new relationship began were entered into the regression equation, along with their two-way interactions and then the final three-way interaction. Furthermore, whether or not the individual's relationship ran its entire course over the duration of the data collection was entered as a dummy-coded control variable (0 = relationship continued beyond the period of data collection, 1 = relationship was completed within the time period). The results are presented in Table 23.

Table 23. Adult Attachment as Predictor of Changes in Well-Being (Relationship Entry)

Model	Coefficient	Standard Error	t
Life Satisfaction			
Intercept	23.96	.41	58.88***
Completed	-1.43	.64	-2.25*
Time	.00	.00	1.31
Anxiety	-.31	.03	-9.81***
Avoidance	-.03	.04	-.63
Anxiety*Avoidance	.01	.01	1.68
Time*Anxiety	.00	.00	.14
Time*Avoidance	-.00	.00	-4.47***
Self-esteem			
Intercept	22.39	.31	73.07***
Completed	-1.11	.48	-2.32*
Time	.00	.00	.11
Anxiety	-.36	.03	-12.50***
Avoidance	-.19	.04	-4.91***
Anxiety*Avoidance	.00	.01	.58
Time*Anxiety	-.00	.00	-1.95*
Time*Avoidance	-.00	.00	-.77
Negative Mood			
Intercept	1.89	.04	47.66***
Completed	.09	.06	1.48
Time	-.00	.00	-.54
Anxiety	.05	.00	10.68***
Avoidance	.02	.01	2.81**
Anxiety*Avoidance	-.00	.00	-1.31
Time*Anxiety	.00	.00	1.02
Time*Avoidance	.00	.00	.39
Time*Anxiety*Avoidance	.00	.00	1.90 ^a

^a p = marginal

* p < .05

** p < .01

*** p < .001

For changes in life satisfaction, the three-way interaction between time, anxiety, and avoidance was not a significant predictor, however, the two-way interaction between time and avoidance was ($\gamma_{12} = -.00$, $t(1262.52) = -4.47$, $p < .001$). Figure 19 presents the trajectories for this interaction at the time point of the relationship having started and 1 and 2 standard deviations subsequent to this (with Table 24 presenting the results of slopes analyses).

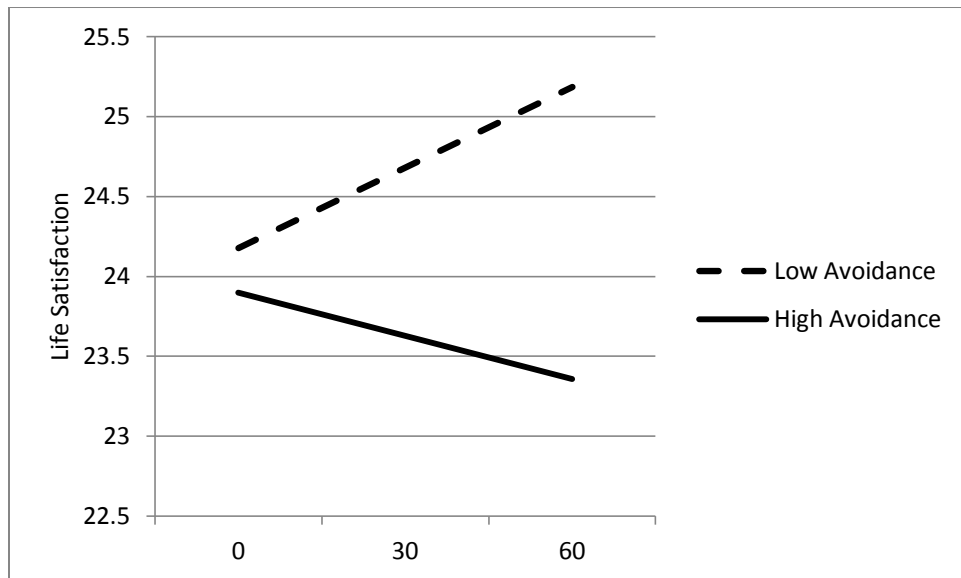


Figure 19. Attachment Avoidance and Time (Days) as Predictors of Life Satisfaction Change

Table 24. Simple Slopes Analyses for Avoidance and Time as Predictors of Life Satisfaction Change

Differences	t
Low Avoidance	4.24***
High Avoidance	-2.12*

* $p < .05$

*** $p < .001$

For individuals low in attachment avoidance, time predicts increases in overall satisfaction with life. However, for individuals high in avoidance, the opposite pattern emerges; individuals report decreasing life satisfaction the longer they are in their relationships. Hypothesis 2 was therefore partially supported: attachment avoidance predicted a decrease in the well-being factor of life satisfaction as time in the relationship increased.

The three-way interaction between time, anxiety, and avoidance for self-esteem was similarly not significant, however, as can be seen in Table 23, the interaction between time and anxiety was a significant predictor ($\gamma_{11} = -.00$, $t(983.61) = -1.95$, $p < .05$). Figure 20 presents this interaction, while Table 25 presents the results of slopes analyses.

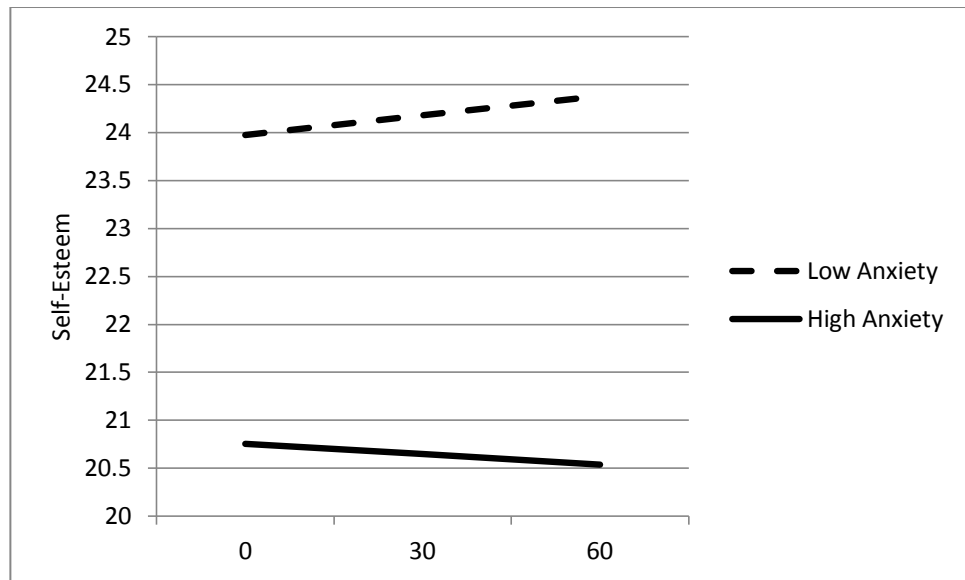


Figure 20. Attachment Anxiety and Time (Days) as Predictors of Self-Esteem Change across Time

Table 25. Simple Slopes Analyses for Avoidance and Time as Predictors of Life Satisfaction Change

Differences	t
Low Anxiety	2.02*
High Anxiety	-.98

* $p < .05$

For individuals low in attachment anxiety, length of time in the relationship saw an increase in feelings of self-esteem. While Figure 20 suggests that for individuals high in attachment anxiety, time in the relationship sees a slight decrease, simple slopes analyses showed this trajectory to be non-significant. It was hypothesised that attachment anxiety would not interact with time to be predictive of changes in well-being and so this finding does not support Hypothesis 2.

For negative mood, the model was significant ($\gamma_{13} = -.00$, $t(1618.17) = 1.90$, $p < .05$) with the three-way interaction between anxiety, avoidance, and time in the relationship found to be approaching significance (see Table 23). The trajectories are shown in Figure 21.

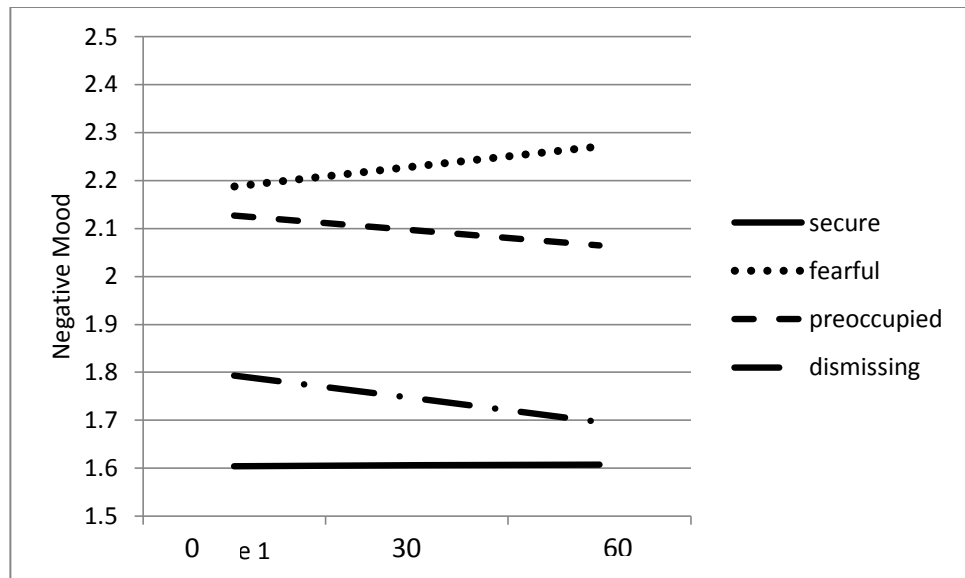


Figure 21. Attachment Anxiety, Avoidance, and Time (Days) as Predictors of Negative Mood Change

Interpreting the slopes in the context of attachment orientations, individuals low in both anxiety and avoidance (secure) remained steadily low in the level of negative mood they reported. Low anxiety/high avoidance individuals (dismissing) reported lower negative mood than their insecure counterparts but that which decreased across the three time points. Both high anxiety/high avoidance (fearful) and high anxiety/low avoidance (preoccupied) individuals reported similarly higher levels of negative mood upon entering a new relationship, however whereas preoccupied individuals' negative mood decreased across time, the opposite pattern emerged for fearful-avoidant individuals, with the trajectory instead suggesting their negative mood to increase as they remained in their relationship.

Lastly, for positive mood, none of the two-way or three-way interactions between anxiety, avoidance, and time was a significant predictor. For this well-being factor then, Hypothesis 2 was not supported.

Discussion

The purpose of the above series of studies was to expand upon previous work examining attachment-based differences in well-being experiences, namely life satisfaction, self-esteem, and negative and positive mood.

Study 1A

The findings of Study 1A identifying differences in baseline life satisfaction were consistent with those reported in previous research (e.g., Hinnen et al., 2009; Hwang et al., 2009; Kim et al., 2008); attachment anxiety's interaction with avoidance suggested

that individuals fitting a secure classification experience the greatest satisfaction with the overall quality of their lives, followed by those fitting dismissing-avoidant and then preoccupied attachment classifications. Individuals fitting a fearful-avoidant classification meanwhile were identified as experiencing the lowest satisfaction with their lives. A fundamental tenet of attachment theory is that early experiences with caregivers determine differences in the mental (working) models individuals form concerning their perceptions of the lovability of self and the availability and likely responsiveness of others, and that these working models in turn influence interpretations of and behaviours within interpersonal experiences. In accordance with the theorising of Bartholomew and Horowitz (1991), individuals fitting a secure classification (low anxiety/avoidance with positive models of both self and other) perceive themselves as worthy of love and have positive expectations of others as accepting and responsive to them. With such a combination of positive perceptions regarding their own self-worth within interpersonal contexts and positive beliefs in the good intentions of others, secure individuals' attachment profile typifies the prerequisites for optimal cognitive subjective well-being. Indeed, the SWB literature highlights that individuals who are able to actualise their goals experience the greatest subjective well-being (Cantor & Sanderson, 2003). Research within both the developmental and adult attachment literatures speaks of goals of *felt security* (Pietromonaco & Feldman Barrett, 2000; Sroufe & Waters, 1977) that refer to aims of attaining a sense of emotional safety within relationships, and how goals of felt security are achieved is through creating and maintaining desired balances between subgoals of intimacy and independence. Within the adult attachment literature, for secure individuals, the combination of both perceptions of deserving and anticipating others' positive regard allows them to seek out the interpersonal experiences they desire, that is, experiences congruent with subgoals of both high intimacy and independence. This enables them to pursue and achieve their goals for their relationships, be they familial, romantic, or friendship, which in turn should lead to elevated feelings of overall satisfaction with their lives. The results of Study 1A indeed support this contention with individuals fitting the secure classification reporting the highest life satisfaction over those fitting other insecure classifications.

Individuals fitting a fearful-avoidant classification can be considered mirror opposites of their secure counterparts due to their negative models of both self and other. Here, such individuals perceive themselves as unlovable and unaccepted, and do not trust others to be receptive to them, instead anticipating them to be rejecting. This

combination of both negative self and other manifests as self-protective distancing behaviours designed as a pre-emptive defence towards expected negative response from others and it is this combination of negative self/other that is suggested here as contributing towards the lowest life satisfaction reported by individuals fitting this classification in Study 1A. Fearful-avoidant individuals desire intimacy in their relationships but deny themselves the experience of it, thus it can be argued that they themselves prevent the achievement of their felt-security intimacy goal, the actualisation of which would lead to more favourable perceptions of the overall quality of their lives. Instead, the negative perceptions of both themselves and the others in their social environments as well as self-inflicted impediment of interpersonal goals is suggested to leave fearful-avoidant individuals perpetually dissatisfied with their life circumstances and thus reporting decreased subjective well-being. Indeed, life satisfaction as measured and assessed by Diener et al (1985) captures sentiments reflective of how one's life compares to one's ideal and the extent to which factors important to the individual have been achieved, sentiments that appear incongruent with the above-described fearful-avoidant cognitions and behaviours they typically demonstrate.

Individuals fitting a preoccupied attachment classification reported life satisfaction lower than their dismissing-avoidant counterparts but higher than that reported by fearful-avoidant. Similar to fearful-avoidant, individuals fitting a preoccupied attachment classification are characterised by a negative model of self in which perceptions of lovability are negative in their construal. However, their perceptions of other differ such that others are viewed positively and as able to be responsive to them and it is this dynamic between negative self and positive other that creates a reliance on others for validation of the self. The goal of felt security for preoccupied individuals is achieved through maintaining a high intimacy/low independence balance via maladaptive strategies such as controlling and 'punishment' behaviours (echoing those displayed by anxious-ambivalent infants in the Strange Situation in which angry behaviour is directed toward caregivers upon reunion with them (Ainsworth et al., 1971, 1978)). Because of their low avoidance, preoccupied individuals are able to pursue their subgoals of high intimacy and low independence in their interpersonal relationships. However, such individuals are often left with a feeling that others are reluctant to get as close to them as they would like (as suggested through measurement of anxiety by Fraley et al., 2000), perceiving more rejection in their interactions than secure individuals (e.g., Pietromonaco & Feldman Barrett, 1997) and so while subgoals are

pursued, they are not always actualised. The decreased life satisfaction reported in Study 1A then could be in part explained by both preoccupied individuals' negative views of self and (perceived) difficulty in achieving high intimacy/low independence interpersonal goals.

Lastly, individuals fitting a dismissing-avoidant attachment classification reported life satisfaction higher than their insecure counterparts but lower than that reported by those fitting secure. As previously discussed, such individuals have a positive model of self as lovable but a negative model of others in which reliability and responsiveness is not trusted. Early experiences of parental non-responsiveness account for such negative perceptions of other and their positive view of self is a defensive strategy compensating for this lack of caregiver attention to attachment needs. Their goals of felt security are achieved through high independence which allows them to maintain their valued self-reliance and low intimacy that ensures their desired autonomy is not infringed upon. Similar to the above attachment classifications, it is argued that dismissing-avoidant individuals' life satisfaction can be in part attributable to the ability to actualise goals (in this instance, intimacy and independence) that is argued within the SWB literature to be important in determining positive well-being. For individuals fitting the dismissing-avoidant classification, independence can be maintained but, while level of intimacy can be controlled to a certain extent, situations are typically encountered in everyday life in which level of intimacy such individuals are comfortable with are compromised, such as others' discussion of problems or emotional reactivity to personal experiences. Indeed it is this element of controllability in the actualising of intimacy goals, in addition to differences in positivity of perceptions of self, that is argued to contribute towards the differing life satisfaction reported between dismissing-avoidant and preoccupied individuals. Maintaining distance and inhibiting others' high intimacy behaviours is argued to rely more on actions of the self and thus is suggested to be more easily (although not impeccably) achieved, while achieving high intimacy interactions with others is less determined by self actions than it is reliant on others' actions that are generally outwith the self's control. With independence and low intimacy therefore being more easily determined by self than high intimacy and low independence in others, it is argued that dismissing-avoidant individuals are better able to achieve their interpersonal goals than preoccupied individuals and hence report the more favourable evaluations of the quality of their lives evidenced in Study 1A.

As suggested within the above discussion, the pursuit and actualising of interpersonal goals is not argued to be the sole contributor towards the observed differences in levels of life satisfaction in Study 1A. Earlier discussion of the SWB literature highlighted that not only are cognitive (i.e. life satisfaction) factors considered fundamental to well-being experience but also affective (i.e. positive and negative mood) factors are too (e.g., Andrews & Whitby, 1976; Bradburn & Caplovitz, 1965; Diener & Diener, 1996; Diener et al., 1995, Lucas et al., 1996). In particular research has drawn attention to hedonic balances, that is, the ratio of positive to negative affect, as well as the frequencies of positive and negative affect experienced that is predictive of subjective well-being (e.g., Diener et al., 1991; Diener et al., 1990; Schimmack et al., 2002; Schimmack et al., 2002; Suh et al., 1998). As summarised earlier, secure individuals' affective profiles suggest they experience the most favourable hedonic balances due to emotion-regulation strategies that minimise distress when such a feeling arises and maintain positivity (e.g. Mikulincer & Shaver, 2004; Pereg & Mikulincer, 2004). This hedonic balance in which positive affect outweighs negative could therefore partly account for the finding that individuals fitting a secure attachment classification report the highest overall satisfaction with life. With both high anxiety and avoidance associated with negative mood (e.g., Barry et al., 2007), fearful-avoidant individuals should experience the least favourable hedonic balances and therefore the lowest life satisfaction of the four possible attachment classifications. Dismissing-avoidant individuals' defensive suppression of feelings of negative affect (such as distress) should see them reporting a more favourable hedonic balance than their fearful counterparts (and indeed reporting greater subjective well-being in the form of increased life satisfaction) but less favourable than secures. As argued earlier, it is this defensive denial of negative affective experience that is suggested as forming the basis of their more favourable hedonic balance in comparison to other insecure groups rather than the active experience of positive affect reported by the secure group. With the SWB literature putting forward that the experience of positive affect plays a bigger role in predicting subjective well-being (e.g., Lucas et al., 1996; Suh et al., 1998), dismissing-avoidant individuals' affective strategy that focuses on suppression of negative and manifests a lower positive mood than secure individuals (e.g. Wei et al., 2005), this too would in part account for the level of comparative life satisfaction reported by individuals fitting this attachment classification. Lastly, preoccupied individuals' tendency to report a greater frequency of negative affect (Meyer et al., 2005) should

produce a less favourable hedonic balance than secure and dismissing-avoidant individuals. However, individuals fitting this classification do not experience purely negative affect (indeed it is not suggested that any individuals' affective profile would be that overly simplistic), with research demonstrating such individuals report feelings of happiness in response to positive partner and relationship experiences (Shaver & Mikulincer, 2003, as cited in Mikulincer & Shaver, 2005) and generally to report feelings of emotional highs along with the lows (Hazan & Shaver, 1987¹). Such feelings of positive affect therefore provide a certain level of counterbalance to the negative experienced and thus is suggested as contributing to the life satisfaction reported by individuals in Study 1A whose feelings of anxiety and avoidance correspond to preoccupied attachment.

However, an obvious limitation in the above discussion of hedonic balances emerges in the form of positive and negative affect not being included in the measures completed by participants. The decision to not include the PANAS (Watson et al., 1988) at the initial, cross-sectional stage of data collection for Study 1 was based on reasons of avoiding over-burdening participants with too many measures that might discourage complete participation. As such, the potential role of individuals' hedonic balances in predicting differences in satisfaction with life experienced cannot be directly examined at this point. Future studies examining the association between adult attachment and baseline life satisfaction would benefit from including a measure assessing mood states, both positive and negative, to investigate potential interactions therein.

Once the association between attachment and life satisfaction had been identified, the next aim of Study 1A was to examine the moderating effect of current relationship status, that is, to examine whether currently being in a relationship or not interacted with anxiety and avoidance to predict differences in overall satisfaction with life. The main effects of baseline life satisfaction as predicted by attachment that were identified previously were replicated here, with the second main effect of relationship status suggesting that general levels of life satisfaction were higher for those who were currently in a relationship than for those who were not. However, the interactions between attachment and relationship status produced interesting results: while individuals in relationships fitting preoccupied and fearful-avoidant attachment

¹ It should be noted here that this finding refers to anxious-ambivalence as measured within the tripartite conceptualisation of attachment classifications and although preoccupied attachment is viewed as corresponding to anxious-ambivalence, they are not considered as identical

classifications appeared to report higher life satisfaction than their single counterparts, the two 'in a relationship'/'not in a relationship' secure groups reported similar levels to one another, while dismissing-avoidant individuals in a relationship reported lower life satisfaction than similar individuals who were out of a relationship.

For the individuals fitting into either of the two high-anxiety attachment groups (namely preoccupied and fearful-avoidant), the pattern of increased life satisfaction when in a relationship can be interpreted and understood via consideration of the attachment needs encapsulated by the feelings associated with high anxiety, as well as the importance placed on validation via interpersonal experiences. Theorising by Simpson and Rholes (2004) put forward that individuals high in attachment anxiety are susceptible to relying heavily on perceptions of interpersonal relationship quality in influencing feelings of happiness and well-being. Although this theorising was framed in the context of such individuals' propensity to hold too-stringent conditions for attaining relationship well-being and basing happiness on the extent to which these conditions are being met, it is argued here that such a tendency is reflective of a broader cognitive bias that exists in high anxiety individuals in which a high level of importance is placed both on romantic partners and the relationship experiences with them. Indeed, Park, Sanchez, and Brynildsen (In Press) found self-worth to be reported as especially contingent on being in a romantic relationship for preoccupied individuals scoring high in rejection sensitivity. For high anxiety individuals then, simply being involved in and hence perceiving having the relationship that is so central to their needs should see an elevated life satisfaction over their high anxiety counterparts not currently engaged in a romantic relationship. Furthermore, for such individuals whose negative models of self impairs ability for autonomous self-validation, being in a romantic relationship provides opportunities for such validation through perceptions of being accepted by a highly valued other, namely a romantic partner. Here, the esteem gained from having chronic access to a source of acceptance should produce elevated feelings of satisfaction within individuals concerning their general life circumstances over similar others who are not involved in a romantic relationship. The pattern of increased life satisfaction for both preoccupied and fearful-avoidant individuals who are currently in a relationship compared to such individuals currently not in a relationship is supportive of the above notion. However, given their differing levels of avoidance (and hence differing models of other) it is perhaps surprising that individuals fitting a fearful-avoidant classification demonstrate a similar pattern of difference in life satisfaction across relationship status

that individuals fitting the preoccupied classification do. The similar patterns suggest that preoccupied and fearful-avoidant individuals place similar importance on their relationships in terms of their contributory value in influencing overall perceptions of life quality. Additionally, it could suggest that while preoccupied individuals can gain satisfaction from acceptance by others who are viewed positively and as able to respond to attachment needs, fearful-avoidant individuals' life satisfaction can similarly benefit from acceptance by those who they anticipate to be rejecting and hence can benefit from acceptance that disconfirms their expectations.

The finding that the level of life satisfaction reported by individuals fitting a secure attachment classification did not seem to differ whether in a relationship or not suggests that for such individuals, how satisfied one feels with the overall quality of their lives is not dependent upon being in a romantic relationship as judgements of quality are equally high whether they are romantically involved with a significant other or not. This pattern highlights the role anxiety plays in influencing the psychological weight given to romantic relationship experiences with regards to subjective well-being; for high-anxiety preoccupied and fearful-avoidant individuals, being in a relationship and hence experiencing both psychological and physical closeness with a significant other produces more favourable evaluations of life quality whereas for low-anxiety secures, life quality is perpetually rated highly regardless of interpersonal circumstance. In other words, while individuals low in anxiety and avoidance desire close relationships and derive satisfaction from their relationship experiences, being with a romantic significant other is not the source of importance for life quality judgements that it is for high anxiety individuals.

Similar to individuals fitting a secure attachment classification, high avoidance/low anxiety (i.e. dismissing-avoidant) individuals in a relationship did not report increased life satisfaction over those not in a relationship. However, where these two attachment 'groups' differ is that for individuals fitting a dismissing-avoidant classification, being in a relationship actually saw a lower level of life satisfaction reported. That is, perceptions of overall life quality are more favourable for such individuals when not currently romantically involved with a significant other. While previous research has identified dismissing-avoidant individuals to derive less satisfaction from their relationships (e.g. Jones & Cunningham, 2005; Pistole, 1989; Tucker & Anders, 1999) and experience adverse feelings in interpersonal situations requiring emotional intimacy (e.g., Rholes et al., 1998; Rholes et al., 1999), the current

study is the first to find evidence to suggest that romantic relationships, which comprise psychological and physical closeness, may have deleterious effects that extend beyond the immediate adverse feelings experienced within that interpersonal context and can have broader implications for perceptions of the general quality of current life circumstances. As previously discussed, dismissing-avoidant individuals' high avoidance manifests a discomfort with closeness and aversion to emotional dependency (e.g., Bartholomew & Horowitz, 1991); romantic relationships present opportunities for exactly these circumstances, with intimacy-promoting behaviours such as self-disclosure and emotional support being of substantial importance to the relationship experience (e.g., Berg & McQuinn, 1986; Cramer, 2004a, 2004b; Hendrick, 1981; Hendrick, Hendrick, & Adler, 1988). It may be then that for dismissing-avoidant individuals, a continual 'obligation' to engage in behaviours that demand a compromise on their part on the level of closeness they are comfortable with in order to maintain a current relationship may contribute towards the lesser satisfaction in their overall life circumstances reported here. Further to this, research outside the framework of attachment has identified that relationships in which there exists an inequality in emotional dependence between partners are predictive of less positive and more negative relationship-related emotion (Le & Agnew, 2001). Although partner levels of comfort with and desire for intimacy in their relationships is not within the empirical scope of the current study and is in itself a complex factor, it may be that a further contributory source to the lower life satisfaction reported could be due to the tensions that may arise from their emotional distancing from and discomfort with their partners' intimacy-provoking needs.

With the nature of the data collection being as it is, however, the specific mechanics behind each of the above observed patterns of similarities and differences in life satisfaction judgements across attachment and relationship status have not been directly examined. The aim of Study 1A was an exploratory examination of moderating factors not considered previously in attachment research investigating life satisfaction and the discussion here should therefore be considered as providing direction for future research on factors to be tested for in gaining insight into the observed interactions. Participant and partner reports of need fulfilment, the nature of partner interaction (for example, instances of support-seeking and provision, self-disclosure, tensions and conflict), the importance placed on relationships and partners, and the role of self-

validation through perceived partner acceptance could all be investigated for their explanatory potential for the above findings.

Study 1B

Study 1B focused on examining differences in relationship satisfaction and its interactions with anxiety and avoidance in predicting differences in life satisfaction. Consistent with previous research, individuals fitting the secure classification reported the greatest satisfaction with their relationships while individuals reporting attachment-related feelings consistent with fearful-avoidance reported the lowest relationship satisfaction. Individuals reporting the equivalent of preoccupied and dismissing-avoidant classifications reported similar levels of relationship satisfaction to each other.

Secure individuals' comfort with closeness and ease with relying on and trusting others (e.g., Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Mikulincer, 1998a; Simpson, 1990) should see them enjoy the most gratifying relationship experiences over their insecure counterparts. Indeed, as earlier discussed, previous research has identified secure individuals to report the greatest intimacy in their relationships (Mikulincer & Erev, 1991) as well as greater interdependence and commitment (Simpson, 1990). Due to their positive model of other in which expectations of significant others comprise those of responsiveness to needs and acceptance, as well as their positive model of self of perceptions of being worthy and loveable, secure individuals are cognitively equipped to comfortably turn to others for support and indeed report greater self-disclosure (e.g., Mikulincer & Nachshon, 1991; Pistole, 1993), report receiving higher levels of emotional and instrumental support from significant others and also feel comfortable in using such significant others when the need to do so arises (Florian et al., 1995; Larose et al., 1999; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Ognibene & Collins, 1998; Simpson et al., 1992). Furthermore, secure individuals gain greater benefit from their interpersonal interactions, reporting feeling happier and perceiving others to understand them and be more responsive to them than insecure individuals report (e.g., Kefetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996). When negative interpersonal situations are encountered (such as partner disagreement or violation of trust) secure individuals employ constructive resolution strategies, such as mutually-focused integrating strategies (Feeney, 1994; Levy & Davis, 1988; O'Connell Corcoran & Mallinckrodt, 2000; Pistole, 1989) that limit stress and upset while maximising opportunities for experiencing possible emotional benefits (Mikulincer, 1998) from such

altercations such as increased intimacy and reduction in negative emotional arousal (see Fruzzetti & Jacobson, 1990, for general discussion). Taken together, it is little surprising then that individuals fitting this profile of low anxiety/avoidance (and therefore positive self/other views) should find their relationship experiences the most satisfying; their cognitive and behavioural proclivities enable the actualisation of the needs and wants that are central to them for relationship well-being.

Fearful-avoidant individuals' high anxiety and avoidance (and related negative models of both self and other) manifests negative self-perceptions coupled with views of others as being untrustworthy and rejecting. Such is the nature of their negative expectations that, despite desiring closeness to a romantic partner, they do not trust their intentions and so maintain an emotional distance that serves to prevent them from achieving the gratifying experiences that would otherwise satisfy their attachment-based needs and wants. On this basis alone one would expect individuals fitting this classification to report decreased satisfaction with their romantic relationships due to self-implemented limitation of emotional investment. However, there is much that has been identified within the attachment literature which would serve to account for the finding of decreased satisfaction. Indeed the literature examining interpersonal cognitions and behaviours has identified that individuals high in anxiety tend to make negative dispositional attributions for others' behaviours, and when feeling threatened within their relationships experience emotional distress that manifests behavioural actions likely to result in conflict (Collins et al., 2006). Within such conflict situations, high anxiety and avoidance have also been found to be associated with less constructive conflict styles, negative escalation and withdrawal, dominating behaviours, and distress (Carnelley et al., 1994; Creasy & Hesson-McInnis, 2001; Creasy et al., 1999; Feeney, 1994; Levy & Davis, 1988). With their distrust and tendency toward negative construal of partner behaviours, as well as maladaptive conflict resolution styles and adverse interpersonal feelings resulting from negative self/other perceptions, the fearful-avoidant attachment classification typifies that which is highly suggestive of dissatisfying relationship experiences and provides insight into the observed finding that such individuals indeed report lower satisfaction levels with their current relationship.

Preoccupied and dismissing-avoidant attachment profiles contrast greatly (with the former encapsulating desires for high intimacy and low independence and the latter characterised by the opposite pattern) and yet the results from Study 1B suggest that individuals fitting into either of these attachment classifications experience similar levels

of relationship satisfaction. It is argued here that the different maladaptive attachment-influenced cognitive and behavioural approaches to interpersonal relationships exhibited by individuals fitting dismissing-avoidant and preoccupied classifications produce similarly less satisfying relationship experiences (when compared with security-fitting individuals' experiences). As earlier described, avoidance has been identified in the attachment literature as predicting experiencing fear of intimacy in relationships (Hazan & Shaver, 1987) and perceptions of interpersonal interactions as less positive compared to secure individuals with regards to responsiveness and level of understanding of them (Kafetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996). Furthermore, in conflict and relationship-threatening situations, avoidance has been shown to be associated with compromising and defensive withdrawal (i.e. distancing) strategies that allow them to by-pass feelings of distress (Creasy & Hesson-McInnis, 2001; Creasy et al., 1999; Meyer et al., 2005; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Pistole, 1989; Radecki-Bush et al., 1993), suggesting that sources of interpersonal tensions are not directly addressed and have the potential to remain unresolved. Higher-intimacy interpersonal encounters, such as support seeking, are also viewed unfavourably by high-avoidant individuals and can also account for the observed relationship satisfaction finding in Study 1B; such individuals seek support less (Simpson et al., 1992) and demonstrate increased stress in response to support-seeking situations (Rholes et al., 1998; Rholes et al., 1999), responding negatively to high-disclosing partners (Mikulincer & Nachshon, 1991). Due to the nature of romantic relationships, close, emotionally intimate (be they support-seeking or relationship-threatening) encounters are typically experienced frequently and so may account for the observed lower relationship satisfaction reported by dismissing-avoidant-type individuals.

For individuals reporting levels of high anxiety and low avoidance (that is, a negative model of self and positive model of other descriptive of preoccupied attachment (Bartholomew & Horowitz, 1991)), relationships are characterised by emotional highs and lows including obsessive preoccupation and jealousy (Hazan & Shaver, 1987). Their hypervigilance to partners' availability leaves them vulnerable to increased sensitivity to potential threats to their relationships (Simpson et al., 1999); This over-reliance on partner esteem and availability would account for the findings of previous research characterising such individuals' relationships as rife with highs and lows (feelings of happiness at perceived partner acceptance and responsiveness and

distress at perceived partner rejection and non-responsiveness) and is a potential insight into the observed decreased relationship satisfaction evidenced in Study 1B. Specifically, such individuals' vulnerability to negative cognitive and affective reactions to partners' behaviours that do not meet their unrealistic and stringent relationship conditions (Simpson & Rholes, 2004) would decrease their satisfaction (and hence manifest the lower relationship satisfaction compared to secures identified here), but their positive reactions to perceived acceptance inferred from partner responsiveness would provide a counterbalance to the negative (and hence increase satisfaction to above that which was reported by their fearful-avoidant counterparts).

The focus of Study 1B was next on examining the interactions between anxiety, avoidance, and relationship satisfaction in predicting differences in life satisfaction. While the three-way interaction between anxiety, avoidance, and relationship satisfaction was not significant, relationship satisfaction's interaction with attachment avoidance was. Examination of this finding revealed that individuals low in avoidance and indicating high ratings of relationship satisfaction reported the greatest life satisfaction, while individuals high in avoidance indicating lower relationship satisfaction ratings reported the lowest life satisfaction. This finding is consistent with what would be expected on a theoretical basis. However, it should be noted that within each high avoidance/low avoidance category, the difference in life satisfaction reported across perceived relationship quality was slight, suggesting that feelings of avoidance (that is, the extent to which one is comfortable with intimacy in their relationships) contributes more to the level of general satisfaction with life than does the extent to which one finds their current relationship satisfying.

Interestingly, while anxiety and relationship satisfaction independently predicted life satisfaction, their interaction did not. A possible interpretation of this lack of an interaction could be that for high anxiety individuals, the perceived quality of the relationship they are currently in does not exert an influence on how satisfied they feel in their lives generally, only that they *are* currently in a relationship (as supported by the significant finding of Study 1A where high anxiety individuals (both preoccupied and fearful-avoidant) in relationships reported increased satisfaction over their single counterparts). Conversely, for low-anxiety individuals, judgements regarding overall satisfaction with life circumstances are not dependent upon their relationship experiences generally (as suggested within Study 1A) and as an extension therefore are also not dependent upon the experiences *within* those relationships.

Study 1C

Having examined the potential moderating effects of relationship status and satisfaction on attachment-based differences in ratings of life satisfaction, the next empirical focus in the current series of studies was to examine *change* in well-being. Specifically, the aim of Study 1C was to investigate changes in well-being as individuals experience changes in their relationship circumstances, either through entering into a new relationship or leaving a current one. While earlier studies here focused purely on life satisfaction as a well-being factor, the current study included feelings of self-esteem as well as positive and negative affect in addition to the continued focus on life satisfaction. A main decision to not include examination of self-esteem and positive and negative affect in the earlier cross-sectional work was due to the empirical attention each of the three have enjoyed within the adult attachment literature in previous work. Indeed, much has been identified concerning differences in baseline self-esteem and affect (for example, baseline positivity and negativity, emotional reactivity, and affect regulation) across attachment classifications (e.g., Barry et al., 2007; Bylsma et al., 1997; Collins & Read, 1990; Feeney & Noller, 1990; Fraley & Shaver, 1997; Kotler et al., 1994; Mikulincer, 1998; Mikulincer & Orbach, 1995; Pietromonaco & Feldman Barrett, 1997; Simpson et al., 2007; Van Buran & Cooley, 2002; Wei et al., 2004; Wei et al., 2005) that examination of baseline differences would be pure replication. However, much less understood is the influence of change in relationship circumstances on the experience of these well-being factors with even less understood concerning cognitive judgements of overall life quality.

Previous research examining relationship dissolution has found attachment styles characterised by high anxiety to predict more negative affective experiences following a relationship ending (Feeney & Noller, 1992; Pistole, 1995; Sprecher et al., 1998). Specific post-relationship experiences include feelings of both self-reproach and partner-blaming (Pistole, 1996), as well as emotional distress, guilt, and protest reactions of anger and hostility along with partner preoccupation and desire for the relationship to re-continue (Davis et al., 2003). Attachment avoidance meanwhile has been found to negatively predict post-dissolution distress (Simpson, 1990) with such individuals favouring coping behaviours of self-reliance over support from family and friends (Davis et al., 2003). While this research clearly identifies the pattern of increased adverse affective experience in the weeks subsequent to a relationship breakdown as anxiety increases, the current study's aim (Study 1C) was to be able to capture

individuals' more immediate affective responses, that is, to measure feelings of positive and negative affect experienced within a week of a relationship ending. Conversely, the above research does not provide insight into how self-regard (as conceptualised through self-reported self-esteem) and overall satisfaction with life are impacted on in relationship dissolution circumstances and hence it was the aim of the current study to address this gap.

To recapitulate the structure and nature of the analyses of Study 1C, individuals completed measures on a weekly basis that allowed for the monitoring of their relationship experiences (be they continuing on in a current relationship and their feelings of relationship satisfaction, entering into a new relationship, leaving a current relationship, or remaining out of a relationship) along with co-occurring feelings of well-being in the forms of life satisfaction, self-esteem, and positive and negative mood. Change scores in these well-being variables were created by subtracting ratings in the week a relationship status change had been reported from the last rating reported before the status change had occurred. To ensure immediate changes in well-being were being captured, only individuals whose pre- and post-relationship well-being ratings were within one week of each other were included.

Examination of change in life satisfaction upon a relationship ending revealed that individuals fitting the attachment classification of preoccupation reported the greatest decrease in life satisfaction, followed by fearful-avoidance, dismissing-avoidance, and lastly security. Slopes analyses suggested however that the change scores for secure- and dismissing-types did not significantly differ from one another and similarly for preoccupied and fearful, suggesting that the major contributor to changes in perceptions of life quality lies in feelings of attachment anxiety. There are several theoretical factors both within, and that which can be applied to, the framework of attachment that can provide insight into the above findings. Earlier-discussed consideration of the importance placed on both partner and relationships for high-anxiety individuals would suggest that to no longer have that which is so valued would see such individuals' ratings of satisfaction decrease the most. Indeed, Diener et al.'s (1985) Satisfaction with Life Scale includes items capturing individuals' feelings regarding having what is judged important in life and the extent to which a chance to relive one's life experiences would see a desire to make changes. For high-anxiety individuals then, the termination of a relationship (which the findings of Study 1A suggested to be a significant contributor to such individuals' increased life satisfaction over their single counterparts)

would see a change in a central aspect of their lives that was a source of cognitive contentment. That previous research examining post-relationship feelings found high anxiety to be predictive of wishing to regain the lost relationship (Davis et al., 2003) draws parallels to the desire to change life circumstances encapsulated within the Satisfaction with Life Scale and offers further insight into the observed decreased life satisfaction on the basis of increased anxiety.

A second possible perspective accounting for the observation that individuals characterised by high anxiety (that is, fitting into either preoccupied or fearful-avoidant classifications) report greater decreases in life satisfaction comes from consideration of the cognitive organisation of mental schema addressed by Linville's (1985, 1987) self-complexity model. This model sees individuals' knowledge and awareness of self to be organised into multiple self-aspects that form a larger associative network, and that the degree of complexity, that is, the number and distinctiveness of those aspects, differs across individuals. Greater complexity then can be conceptualised as comprising a greater number of self-aspects that are highly distinctive from one another, with lower complexity comprising fewer self-aspects that are more enmeshed and poorly distinguishable. The importance this has regarding well-being changes in response to relationship dissolution lies in the earlier-discussed "Spillover Process" (Linville, 1987, p. 664) in which a negative situation that is encountered by the individual activates the self-aspect in their associative network that most strongly relates to it contextually. The consequence of this activation at such a time is that the negative cognitions and affect that have arisen as a result of the encounter become associated with that self-aspect. Further problematic for individuals whose associative networks are less complex in their structure with fewer, overlapping self-aspects, is that due to these less differentiated self-aspects, a negative event experienced in one 'spills over' and affects the cognitive and affective contexts of others neighbouring them. Mikulincer (1995) identified that secure individuals' self-structure comprised highly differentiated positive self-aspects, while avoidant individuals' were similarly complex but their level of differentiation suggested low accessibility to negative self-aspects due to having fragmented, less well-connected associative networks. Anxious-ambivalent individuals' networks meanwhile comprised fewer, poorly differentiated negative self-aspects, characterising such individuals as having a self-representation based only on a few highly-related entangled self attributes. For such individuals then, a setback relevant to one self-aspect would be expected to colour the cognitions of those self-aspects that overlap with it, producing stronger

cognitive and affective reactions than would otherwise be evident in individuals with more complex associative networks. When considered in the context of romantic relationships, an interpersonal setback presents an especially problematic situation for highly-anxious individuals; the hyperactivation of the attachment system in which models of self and other are chronically accessible should see their relationship-oriented self-aspects be more centralised within their associative networks, suggesting that for such individuals, their overall sense of self is strongly tied to their understanding of self within interpersonal contexts. In experiencing a relationship breakdown then, due to its centralised positioning, not only should highly anxious individuals' cognitive reactions be greater due to the importance of their interpersonal selves in defining who they are, but such individuals' negative cognitive responses should see a 'spill over' into overlapping self-aspects with the consequence of negatively influencing perceptions and judgements of those aspects also. In other words, having the feelings of being unlovable and of lesser worth confirmed through a relationship breakdown would see high-anxiety individuals' negative beliefs of lesser worth arise regarding themselves in other aspects of their lives, producing an evaluation of greater dissatisfaction with their life overall.

For individuals fitting secure and dismissing-avoidant classifications, meanwhile, self-complexity is greater; as described above, such individuals have been found to be characterised by highly-differentiated and numerous self-aspects. As such, a setback relevant to one aspect of self would be expected to impact less on overall well-being due to aspect distinctiveness preventing cognitive and affective spreading. In the current study, for individuals fitting the secure attachment classification, the experience of a relationship breakdown would be less detrimental to life satisfaction judgements because of both the level of importance placed on romantic partners and relationships as well as cognitive inhibition of the 'spillover process'. That is, secure individuals' attachment systems are not chronically activated as high-anxiety individuals' systems are; while models of self and other are easily accessible, secure individuals do not engage in the hypervigilant strategies that their high-anxiety counterparts do and so it is argued that their aspect of self within interpersonal contexts is less centralised within their associative networks. As such, their sense of self is less strongly tied to their relationship experiences and roles and so a negative event within this context should impact less on their well-being overall both due to the lesser importance it has in their sense of self and due to their network-distinctiveness inhibiting spreading into other self-aspects. Furthermore, because secure individuals' associative networks comprise a greater

number of self-aspects, any negative cognitions that would arise from the experience of a relationship breakdown could be counterbalanced by the numerous unaffected self-aspects within their associative network. That is, other self-aspects relevant to secure individuals' definition of self can serve as a cognitive buffer by the individual increasing the salience of the positive properties within these other aspects that contribute to their self-worth in which there are no current setbacks (for a general summary, see Kunda, 1999), thus protecting against feelings of diminishing life satisfaction.

With their more fragmented associative networks in which accessibility to self-aspects is more limited due to greater differentiation, individuals fitting the dismissing-avoidant classification would be expected to report the smallest decrease in life satisfaction when exiting a current relationship. Such individuals' defensive suppression of the attachment system (in which models of self and other are denied cognitive and affective attention) should result in definitions of self that are not tied to their interpersonal self-aspects, which due to their cognitive suppression would not be centralised within the associative network. As such, setbacks occurring within this less personally significant aspect of self would be expected to have minimal impact on overall life satisfaction judgements, both due to the limited self-relevance of interpersonally-oriented self roles (with research identifying that other aspects of self, such as competency- and independence-related facets, are afforded more weight in self-importance (e.g., Brennan & Morris, 1997; Mikulincer, 1998b)) and due to the fragmented nature of their associative networks preventing cognitive and emotional spreading of any negative reactions should they have arisen. However, what was evidenced via slopes analyses in Study 1C was that individuals' fitting secure and dismissing-avoidant classifications did not significantly differ in the decrease in life satisfaction ratings reported subsequent to a relationship breakup (although it should be noted that the trend indicated that dismissing-avoidance-type attachment ratings produced a greater decrease than security). What is offered as a possible suggestion to account for this unanticipated finding is that the decrease in life satisfaction is in part a by-product of dismissing-avoidant individuals' discomfort with intimacy during an increased-intimacy, emotion-intense situation. The dissolution of a current relationship is typically wrought with feelings of distress. Indeed, drawing upon attachment research within the developmental tradition, loss of an attachment figure is divided into three stages, with the immediate response to loss being one of affect-driven protest where crying, anxiety, and aggressiveness predominate (Bowlby, 1980). The aforementioned

research examining the adult experience of romantic relationship loss highlights high-intensity feelings typically experienced during a relationship breakdown (e.g., Davis et al., 2003; Feeney & Noller, 1992; Sprecher et al., 1998). Avoidant individuals' discomfort with situations in which level of emotional distance between self and other is reduced produces feelings of stress (e.g. Rholes et al., 1999). On this basis then, during a potentially highly stressful romantic relationship event, dismissing-avoidant individuals' perceptions of the quality of their life circumstances would be expected to decrease due to facing an event that might force a compromise on their preference for emotional distance. This perspective contends then that the influencing factor on feelings of life satisfaction for individuals fitting the dismissing-avoidant classification lies less with the loss represented by the separation from a significant other and more with the process of that separation.

However, this speculation highlights a limitation of the current study. The above discussion hints at factors (i.e. the extent to which the event was stressful and distressing) that are relevant to relationship dissolution that might account for the findings of differences in change in life satisfaction judgements that are not able to be directly tested for. Previous research has identified that factors such as the controllability of the relationship breakup, which partner initiated it, and understanding of why it has happened are all predictive of feelings of post-dissolution distress (e.g., Collins & Clark, 1989; Frazier & Cook, 1993; Sprecher, 1994). The data collected for the current study does not provide information on the nature of the relationship breakup, only that one took place. As such, factors likely to have an impact on well-being, such as mutuality of the decision, the circumstances that led to the breakup (for example, whether the termination was a result of gradual decline or an abrupt triggering event such as infidelity) are unable to be examined for their additive predictive value. As such, all discussion should be considered with this limitation in mind.

The findings on changes in self-esteem were similar to those identified for life satisfaction; visual presentation of the slopes suggested that individuals fitting preoccupied and fearful-avoidant attachment classifications reported the greatest decrease in self-esteem (with slopes analyses suggesting the two 'groups' to not significantly differ from one another) while individuals fitting dismissing-avoidant reported only a slight decrease. Individuals reporting anxiety and avoidance levels capturing attachment security however appeared to report a slight increase (although it should be noted that this increase was minimal and close to zero). Given the importance

high anxiety individuals are suggested to place on partners and relationships for personal well-being (e.g., Carnelley et al., 2007; Park et al., In Press; Simpson & Rholes, 2004), the finding of greater decrease in self-esteem for individuals scoring high in attachment anxiety is theoretically consistent. As earlier discussed, high-anxiety individuals rely on positively-valued others' approval and acceptance as a source of self-validation that, due to inconsistent caregiver responsiveness in early life, they themselves are unable to do autonomously. A further consequence of early caregiver inconsistency is a chronic activation of the attachment system (and the models of self and other therein) in which anxious individuals demonstrate a hypervigilance to signs of availability manifesting a greater sensitivity and vulnerability to partner rejection. It is the combination of vulnerability to rejection and reliance on significant others for validation that is suggested as contributing towards the decrease in self-esteem evidenced in Study 1C. With their negative models of self, the rejection inherent in a relationship breakdown and therefore loss of a romantic partner would serve to confirm feelings of lesser worth and lovability, resulting in the decrease in the esteem they place in themselves in the immediate days following the dissolution. Indeed self-esteem as conceptualised by Rosenberg (1965) includes sentiments of equality of worth with others, satisfaction with personal qualities, and feelings of being a failure that a perceived personal rejection by a highly-valued other would call into question.

Given the earlier-described qualities that characterise individuals high in avoidance and low in anxiety (i.e. fitting dismissing-avoidance) it is perhaps surprising to see a romantic relationship breakdown be predictive of a decrease in feelings of self-esteem. As with the consideration of theoretical and empirical factors that might account for the observed change in life satisfaction, dismissing-avoidant individuals' suppression of attachment-related cognitions would suggest their sense of self to be less based on their interpersonally-oriented self-aspects, limiting the impact on well-being. The smaller decrease in self-esteem when compared to individuals fitting preoccupied and fearful-avoidant is indeed suggestive of the lesser importance to their definition of self. However, a decrease in self-esteem was still evidenced and so it is offered here then that perhaps in the immediate days following a relationship breakdown, dismissing-avoidant-type individuals' self-esteem decreases slightly not on the basis of the perceived rejection and confirmation of an unlovable self that is inherent in the loss of a romantic partner for high-anxiety individuals, but decreases due to such an event providing an incongruence to the positive views they hold of themselves as high in worth.

Lastly, the finding of individuals fitting a secure classification reporting a slight increase in self-esteem is perhaps a confusing one. However, as earlier stated, this change is slight, suggesting that relationship dissolution has limited impact on the evaluation of self-worth for low anxiety/avoidance individuals and is consistent with attachment theorising that such individuals who fit into a secure classification do not rely on significant others for self-validation in the way that highly anxious individuals do. For secure individuals with a positive view of self as worthy of love and responsiveness to needs, a loss of a romantic partner should not represent the personal rejection via confirmation of an unlovable self that it is for high-anxiety individuals. Indeed, secure individuals' positive perceptions of self directly contradict such a possibility. Instead, the results are suggestive of the notion that in relationship dissolution circumstances, for securely-attached individuals, the focus of any distress experienced is less on what the breakup might indicate regarding the quality of their personal dispositions than it is on the loss of a significant other and the relationship with them.

The extent to which emotional distress differs on the basis of attachment orientations was next examined in the form of changes in positive and negative affect. The results indicated that greater attachment anxiety predicted a greater decrease in positive mood upon a current relationship ending, while both greater anxiety and avoidance predicted a greater increase in negative mood. As earlier summarised, highly-anxious individuals are less able to suppress negative affect, reporting a hypervigilance to sources of distress (Mikulincer et al., 1998), the experience of which is thus heightened (Meyer et al., 2005), which when combined with poorer abilities to regulate and manage emotional states (e.g., Gilliath et al., 2005; Mikulincer, 1998a; Mikulincer & Orbach, 1995; Mikulincer & Shaver, 2005; Pereg & Mikulincer, 2004) characterises a general maladaptive affective experience as well as strategy in managing that experience. With previous research thus identifying anxious individuals' general propensity for increased emotional reactivity, the current study (1C) is consistent with this precedent: individuals reporting increased feelings of attachment-related anxiety reported feeling a greater decrease in affective positivity and greater increase in affective negativity, reinforcing the notion of such individuals as more emotionally vulnerable to significant interpersonal events. Earlier theorising here of the importance placed on interpersonal relationships for individuals characterised by high anxiety, as well as less clearly defined associative networks with overlapping self-aspects allowing for

emotional spreading, are highly relevant in this instance in accounting for the observed increased emotional reactivity. For high-anxiety individuals who are characterised by a fear of rejection and abandonment in an aspect of their lives that is of central importance to them (both in terms of how they define themselves and in what is the focus of their cognitive attention), a greater initial emotional response would be expected, with “spillover” effects resultant from poorer self-complexity (Mikulincer, 1995) amplifying their affective experience. Conversely, for individuals low in anxiety who are characterised by less reactive and intense affective profiles and greater self-complexity than their high-anxiety counterparts (e.g., Mikulincer, 1995; Mikulincer & Orbach, 1995), a relationship breakdown would not be expected to produce as intense an emotional reaction, which is supported by the lesser decrease in positive and increase in negative affect reported in the present study.

It is surprising that greater attachment avoidance was found to predict a greater increase in negative affect after having experienced a relationship breakdown. Individuals high in attachment avoidance are characterised by defensive emotional suppression (e.g., Fraley & Shaver, 1997), demonstrating a restrictive control of emotions (Kotler et al., 1994) that limits access to negative thoughts (Mikulincer & Orbach, 1995). In the current study then, that individuals who report feelings of avoidance that are typically associated with an affective strategy that suppresses negative emotional experience reported a greater increase in negative affect seems theoretically counterintuitive. However, such a finding does appear to be empirically consistent with previous research revealing highly-avoidant individuals to report increased distress during high-intimacy interpersonal interactions (e.g., Rholes et al., 1998; Rholes et al., 1999). The relationship dissolution circumstances examined in Study 1C indeed encapsulate the situational properties that would provoke such feelings of distress and therefore may account for the increased negative mood observed.

A limitation highlighted earlier spoke of a lack of ability to empirically examine the nature of the relationship breakdown captured within the data for Study 1C. However, two factors that *were* able to be empirically considered were relationship length and level of satisfaction with the relationship before its dissolution. It had been hypothesised that satisfaction with, and length of the terminated relationship, would moderate the association between changes in attachment anxiety and well-being (namely, each of life satisfaction, self-esteem, and positive and negative moods). The main effect of attachment anxiety as predictor for each of the well-being factors had

already been identified in earlier analyses; relationship satisfaction meanwhile was found only to significantly predict affective well-being, suggesting increases in relationship satisfaction to be predictive of greater decrease in positive and greater increase in negative moods. Interestingly, anxiety did not interact with relationship satisfaction to predict changes in any of the well-being outcome variables while no direct or moderated effects for length of relationship were identified either. The finding of relationship satisfaction's role in influencing post-dissolution affective experience is intuitive; for relationships experienced as highly satisfying it would be expected that the loss of such a relationship would be emotionally harder for individuals due to their severing from a source of rewarding experiences. While it could be argued that separation from dissatisfying relationships might produce feelings of relief, the findings of the current study do not support this; that less satisfying relationships also provoked an increase in negative and decrease in positive moods but simply to a lesser extent is counterintuitive to the above notion and suggests that even separation from relationships that fall short of ideal can be detrimental for feelings of affective well-being. The lack of statistical significance in predicting changes in life satisfaction and self-esteem characterises relationship satisfaction's role in the relationship breakup process as being influential only in the moods individuals experience. Losing a highly satisfying romantic relationship therefore may make an individual feel affectively worse, but their self-regard and perceptions of overall life quality would be no different than if the relationship that had ended had been highly dissatisfying.

Anxiety's lack of interaction with relationship satisfaction in predicting changes in post-dissolution well-being is in keeping with the findings previously identified in the current series of studies. In these previous studies, anxiety did not interact with relationship satisfaction to predict differences in well-being when currently in a relationship, suggesting that when considered with the observed finding of high anxiety producing reports of increased life satisfaction when in a relationship, for high anxiety individuals the experience of being in a relationship is more important for well-being than experiences within that relationship. Similarly here, the results of analyses suggest that for high anxiety individuals, who experience greater decreases in well-being during relationship dissolution circumstances, the cognitive and emotional sequelae are the same regardless of how satisfying a relationship experience it was for them.

The finding that length of relationship was not a significant predictor of changes in well-being in response to a relationship breakdown is surprising and is not consistent

with previous research (e.g., Simpson, 1987). Limitations in the method of relationship-length measurement used in the current study may be attributable to the lack of statistically significant findings evidenced in Study 1C. Relationship length was measured categorically with the periods of time defined as falling into either 0-3 months, 3-6 months, 6-12 months, 12-24 months, or 'Longer than 24 months' (requiring further specification on the length of time within this category). Forced assignment into categories such as these is problematic on the basis that there is no differentiation able to be made for inter-category variability; individuals who have been together for 6 months are treated the same as individuals who have been together for a year. Measuring relationship duration dimensionally rather than categorically is suggested to be a much more sensitive methodological approach that may have produced results consistent with previous research that the investment in a romantic relationship that is represented by greater duration would be an influencing factor in the level of well-being distress experienced upon its dissolution.

The next focus in Study 1C was on changes in well-being upon entering into a new relationship. Firstly, lower anxiety and avoidance independently predicted greater increases in life satisfaction upon a new relationship beginning. It is interesting to note that it is lower insecurity (in this instance, anxiety and avoidance) that predicted less of an increase in feelings of life satisfaction; while for attachment avoidance such a finding is theoretically consistent due to high avoidance being characterised by a downplaying of attachment-related cognitions, affect, and experiences, for attachment anxiety it is perhaps at first glance intuitively counter to expectations. As earlier summarised, high anxiety individuals place greater importance on their relationships, with romantic partners being relied upon as a source of self-validation. As such, the benefit from perceived approval through a relationship starting with a new romantic partner would be expected to produce more favourable increases in life satisfaction (due to such interpersonal circumstances closer matching ideal conditions as captured by the Satisfaction with Life Scale (Diener et al., 1985)) than for low anxiety individuals who, while still value their interpersonal experiences, place less importance on them. However, further consideration of this finding suggests this result can be interpreted in a way that is in fact in keeping with previous research. Within the adult attachment literature it has been identified that individuals high in anxiety demonstrate a negative cognitive bias (see Shaver & Mikulincer, 2003 for discussion of negative biases in social judgements). With regards to interpersonally-oriented situations, such individuals'

hypervigilance resulting from chronically-activated attachment systems result in greater sensitivity to partners' behaviours and, due to their negative models of self, to signs of rejection and disapproval. As such, it may be that the lesser increase in life satisfaction may be a result of higher-anxiety individuals' negative biases emerging at this initial stage of the new relationship serving to limit the benefit to life quality perceptions that low-anxiety individuals are able to enjoy.

Worthy of note upon examination of the slopes is that the patterns for anxiety and avoidance are similar: high anxiety predicted a similar increase in life satisfaction as high avoidance, while low anxiety evidenced the same as low avoidance also. On the basis of earlier theorising in which greater affective and cognitive reactivity should be expected on the basis of increased anxiety, the current results suggest that life satisfaction judgments in response to a positive interpersonal event are equivalent on the bases of anxiety and avoidance. However, while the life satisfaction outcomes may be equivalent, the underlying processes accounting for these similarities in increases are suggested as originating from differing cognitive sources. Indeed, both theoretically and empirically these two attachment dimensions differ markedly from one another and therefore inherent in this is the notion that the psychological routes from interpersonal experience to cognitive reaction should differ. It may be that for high anxiety individuals, the importance of relationship and partner experiences to them would see a benefit to life satisfaction judgements, but that this benefit would be tempered by the very anxiety about such experiences that characterises their attachment profile. That individuals lower in attachment anxiety reported a greater comparative increase is supportive of this notion. For individuals high in avoidance meanwhile, their smaller increase in comparison to low-avoidance individuals is argued instead to be reflective of their defensive lesser importance placed on romantic relationship and partner experiences. Future research would benefit from examining the underlying mechanics of the observed changes here to gain further insight into the processes governing individuals' anxiety- and avoidance-based differences in life satisfaction changes. As earlier discussed, the aim of the current series of studies was an exploration into interpersonal factors that might serve to moderate the underexplored association between adult attachment and life satisfaction, as well as further explore the moderating effect on the more established well-being factors of self-esteem and positive and negative moods. As such, the discussion here, while theoretically and empirically tenable, is speculative. The predictive value of romantic relationship experiences

identified here (thus far, relationship status, satisfaction, dissolution and commencement) provide insight into the cognitive and affective well-being processes taking place and the subsequent discussion should therefore be used to provide direction for future empirical examination.

Similar to life satisfaction, both attachment anxiety and avoidance independently predicted change in self-esteem. Plotting of the slopes suggested low anxiety to predict an increase, but for high anxiety the change in self-esteem was close to zero. This finding for attachment anxiety is particularly noteworthy when considered in conjunction with self-esteem change in response to relationship dissolution. In this circumstance, high anxiety individuals (that is, individuals fitting into either preoccupied or fearful-avoidant attachment classifications) reported a markedly greater decrease in self-esteem in response to a relationship breakdown compared to their low-anxiety counterparts (i.e. secure- and dismissing-avoidant-type individuals). In relationship entry circumstances, however, high anxiety shows minimal change in self-esteem. It appears then that while high anxiety individuals' self-regard suffers upon losing a highly-valued other, their self-views gain little benefit from starting a new relationship with a new other. This pair of results then further reinforces the theoretical contention that high-anxiety individuals demonstrate a negative cognitive bias: a negative relationship experience has a greater detrimental impact on perceptions of self-worth and esteem than a positive relationship experience has a beneficial impact. That is, despite a new romantic relationship in principal representing a form of 'other' acceptance due to the liking inherent in romantic interest, high anxiety individuals appear not to cognitively attend to and utilise this information in a way that would otherwise see a more positive evaluation of self-qualities. A rejection in the form of a relationship breakdown, however, appears to be interpreted more directly as reflecting negatively on self-value, producing feelings of being intrinsically a failure, of having limited worth, and being dissatisfied with the qualities they have to offer. Further anxiety-based limitations to well-being improvements were evidenced in positive and negative mood changes, with a lesser increase in the former and close to zero change in the latter (see Figures 14 and 15). High-anxiety individuals have been identified in previous research to report lower positive and higher negative moods (e.g., Barry et al., 2007) and it appears from the results of Study 1C that a positive interpersonal experience such as new relationship formation does little to ameliorate this affective state of mind. Conversely, as with self-esteem, as anxiety increases, a negative relationship experience impacts more on

affective well-being, with a greater decrease in positive mood and a greater increase in negative mood reported.

The results of the remaining well-being analyses and plotting of slopes for the relationship entry sample indicated low avoidance to be predictive of a greater increase in self-esteem and a greater increase in positive mood over high avoidance; avoidance was not found to be significantly predictive of change in negative mood. Smaller decreases in positive mood and self-esteem as avoidance increases is consistent with theoretical expectations; highly-avoidant individuals place less importance on their relationship experiences and are characterised by a defensive downplaying of affective experience. However, the discomfort with intimacy and desire for emotional distance that is encapsulated within high avoidance might appear incongruent with the increases evidenced here, as a new relationship typically represents increased opportunity and expectancies of high-intimacy experiences. On this basis it could be argued then that, although the increases were reduced in comparison to low-avoidance, any increase is perhaps counter-theoretical. However, research outside of attachment theory examining interpersonal processes argue that early-stage relationships are typically characterised by physical, rather than emotional, closeness with couples desiring close contact and physical intimacy (e.g., Berscheid, 1985) and so perhaps it is the case that the immediate first few days of a new relationship see limited opportunity for avoidant individuals' discomfort with emotional intimacy to arise, which would otherwise adversely impact on their cognitive and affective well-being.

The final analyses of Study 1C examined the moderating effect of satisfaction with the new relationship in predicting anxiety-based differences in subjective well-being changes. Regression analyses indicated that while both attachment anxiety and relationship satisfaction independently predicted well-being changes when entering into a new relationship, their interaction did not. Specifically for relationship satisfaction, the beta coefficients suggested that as satisfaction with the new relationship increases, the patterns emerged of greater increases in life satisfaction, self-esteem, and positive mood, and greater decrease in negative mood. Such findings are intuitive; to enter into a new relationship that is highly satisfying and meets relationship ideals (concepts encapsulated by the relationship questionnaire utilised in the current study) should see perceptions of life quality (e.g., being satisfied with life conditions) increase, opinions of self-value improve due to the esteem gained from having a perceived high-quality relationship experience, and mood improve due to the rewarding nature of pleasant

interpersonal events. Conversely, to enter into a new relationship that is highly dissatisfying should produce less favourable evaluations of life quality due to experiencing less than ideal interpersonal circumstances, less benefit to self-esteem on the basis of a low quality relationship providing limited opportunity for being able to derive positive inferences of self-attributes, and produce unfavourable hedonic states due to a less pleasant romantic experience. That attachment anxiety did not interact with ratings of perceived relationship quality further reinforces the earlier-ascribed notion that, for high-anxiety individuals, the experience *of* a new relationship is more influential on well-being than experiences *in* a new relationship, and for low-anxiety individuals that experiences within a new relationship, regardless if they are satisfying or dissatisfying, do not contribute positively or adversely to their overall feelings of subjective contentment.

Study 1D

Once changes in well-being in response to changes in relationship status had been examined, the final focus of Study 1 (1D) was to examine changes in well-being over time. Specifically, rather than the immediate changes in subjective well-being in response to recent status change examined in Study 1C, this final study aimed to look at changes in well-being in the subsequent weeks.

First, for ratings of life satisfaction in the weeks following relationship dissolution, the results of multi-level modelling analyses and plotting of slopes revealed that individuals fitting a secure attachment classification did not report a significant change; that is, their judgements concerning the overall quality of their lives remained steady in the weeks subsequent to their romantic relationship ending. Similarly, although reporting a lower level of baseline satisfaction, individuals fitting a fearful-avoidant classification also did not report any changes in life satisfaction judgements (with slopes analyses confirming the trajectories to be non-significant). Where changes in life satisfaction judgements did occur is with individuals fitting dismissing-avoidant and preoccupied attachment classifications: for both individuals high in anxiety/low in avoidance (preoccupied) and low in anxiety/high in avoidance (dismissing-avoidant), ratings of overall satisfaction with life increased over time. However, the trajectory for dismissing-avoidance indicated rate of increase to be greater than that plotted for preoccupation, suggesting the rate of cognitive well-being “recovery” from relationship dissolution for the former attachment group to be quicker than for the latter.

Insight into these findings may be provided through consideration of the earlier-discussed research of Lyubormirsky et al. (2006) who found feelings of life satisfaction to differ on the basis of cognitive strategies employed in processing of personally significant life events, namely, writing or talking about the event in comparison to simply thinking about it. Research within the subjective well-being literature generally finds that individuals benefit from writing and talking about negative experiences they have encountered (e.g., Greenberg & Stone, 1992; Murray & Segal, 1994) but do not benefit from simply thinking about such experiences (see Lyubormirsky & Tkach, 2004). The basis of this notion lies in the contention that openly talking or writing about negative experiences requires an analysis of the events and labelling of the emotions the event has caused in order to create a coherent narrative of it. This then provides a mental structure to the experience that allows for the emotional resolution, or acceptance, that permits recovery of well-being (e.g., Pennebaker & Graybeal, 2001; Swinkels & Guiliano, 1995). Conversely, the strategy of only thinking about the negative experience does not require the same attentional resources and depth of analysis in creating a structured narrative, typically resulting in intrusive, repetitive, and prolonged negative rumination that is aversive to subjective well-being recovery (e.g., Nolen-Hoeksema et al., 1994) through prolonging negative mood, exaggerating negative thoughts and memories, and leading to greater negative future expectations (e.g., Lyubormirsky et al., 1998; Lyubormirsky & Nolen-Hoeksma, 1995; Lyubomirsky & Tkach, 2004; Segerstrom et al., 2003). On this basis, it was reasoned here that, due to previous research finding that anxious individuals tend to engage in ruminative thinking (e.g., Brown & Phillips, 2005; Saffrey & Ehrenberg, 2007), individuals fitting a preoccupied attachment classification would demonstrate a slower rate of cognitive and emotional recovery after experiencing a relationship breakdown. Indeed, the current results for life satisfaction are supportive of this argument. It may be that dwelling on the negative relationship event itself and ruminating on the nature of the circumstances both exaggerates the affective memory of it (influencing current state of mind) and prolongs the recovery process through self-inflicted impediment to the resolution of those feelings. With the focus of ruminative thought in the weeks subsequent to a negative relationship event being on that very experience, an individual's feelings of satisfaction with their life circumstances would be expected to take longer to improve over time. However, for the individual fitting a dismissing-avoidant attachment classification whose cognitive processing style is one of defensive suppression and non-attention to

attachment-related feelings and experiences, the rate of recovery regarding assessment of life quality would be expected to be quicker due to the thoughts and feelings surrounding the adverse experience being given little cognitive attention and therefore imparting less influence on life satisfaction judgements as time progresses. Furthermore, for such individuals whose relationship experiences are defensively afforded little weight with regards to importance to the self, and the findings of Study 1A suggesting life satisfaction for such individuals to be higher when not in a relationship than when in, the greater rate of increase in comparison to preoccupied-type individuals is theoretically and empirically consistent. Additionally, it was earlier suggested that perhaps for individuals fitting the dismissing-avoidant attachment classification, post-relationship cognitive distress could be attributed more to the process of the relationship breakdown than to the loss of their romantic partner, which might further account for the quicker rate of life satisfaction increase observed.

For individuals low in anxiety and avoidance (secure-type), the finding that life satisfaction remained steadily high over time is also in keeping with theory and research. As earlier discussed, previous research has identified that secure individuals are comfortable with self-disclosure and use others as a source of support (e.g., Larose et al., 1999; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Simpson et al., 1992). With the research of Lyubormirsky et al. (2006) cited above suggesting that individuals who talk about their negative experiences see benefits to their life satisfaction, it is possible that a contributor to secure-type individuals' steadily high life satisfaction is their comfort with seeking support from others and openly discussing their attachment-related thoughts and feelings regarding their ended relationship. A further potential possibility contributing to the present findings comes from the results of Study 1A. Here, secure-type individuals were identified as reporting similar life satisfaction regardless of whether they were in a relationship or not, suggesting that life satisfaction does not hinge upon the experience of a romantic relationship. The current finding of steadily high life satisfaction might therefore be a further reflection of such individuals giving less weight to relationship experiences when considering their satisfaction with life circumstances. This is not to suggest that such individuals share dismissing-avoidant-types' lesser importance when it comes to relationships. Rather, as earlier described, secure-type individuals' more complex associative networks in which their relationship self-concepts are suggested to not be in a centralised position result in their sense of self

being understood through various social contexts rather than strongly tied to their relationship experiences.

Lastly, for individuals high in both anxiety and avoidance (fearful-avoidant), the finding that judgements of life satisfaction remained steadily low across time is consistent with hypotheses. With fearful-avoidant individuals' high anxiety, it would be expected that, similar to preoccupied types, such individuals would engage in ruminative thinking, prolonging the cognitive and emotional resolution of attachment-related thoughts and feelings that have arisen from experiencing a relationship breakdown. However, unlike preoccupied-type individuals in the current study, fearful-avoidant reported no increase in life satisfaction across time. This difference in trajectories is suggested to be accountable by differing levels of avoidance producing different post-relationship strategies with regards to support-seeking. Fearful-type individuals' high avoidance suggests an aversion to self-disclosure and relying on others for support, whereas preoccupied-type individuals' low avoidance suggests no such aversion. It may be then, that while preoccupied individuals demonstrate ruminative tendencies, their comfort with the closeness inherent in personal disclosure and emotional support might provide enough of a counterbalance to allow gradual improvements in perceptions of life quality over time. That is, while engaging in ruminative thought processes in the time period subsequent to experiencing a relationship breakdown, their comfort with disclosing with others may see a gradual improvement in life satisfaction as the issues begin to resolve. With fearful individuals' avoidance producing a discomfort with such interactions, it may be that their life satisfaction perceptions remain resilient to improvements over time due to their distancing behaviours preventing the emotional and cognitive resolution that comes with disclosure.

However, the above discussion regarding preoccupied and fearful-avoidant individuals' support seeking behaviours should be considered within the context that, while some studies have found evidence of anxious individuals demonstrating support-seeking behaviours, the research on this topic is inconsistent (see Feeney & Collins, 2004) and is an area requiring more empirical attention. The above discussion therefore is speculative and should therefore be read as providing a potential direction for future work.

The findings for self-esteem mirrored those identified for life satisfaction: individuals fitting a secure classification reported no change in self-esteem, remaining steadily high across time, while individuals fitting a fearful-avoidant classification

similarly reported no change over time, remaining steadily low. For dismissing-avoidant- and preoccupied-type individuals, both reported increases across time, with the former reporting a greater rate of increase than the latter. Similarly, then, it is proposed that the mechanisms described above as being potential contributors to the observed results for life satisfaction are applicable here; for high-anxiety preoccupied- and fearful-types, the rate of recovery regarding feelings of self are more prolonged due to both the central relevance relationships have for concepts of self and the ruminative tendencies they engage in preventing the resolution of post-relationship feelings that are detrimental to their perceptions of self-worth. Furthermore, fearful-avoidant individuals' self-implemented isolation from others' emotional support is argued to further contribute to their steadily low self-esteem through not gaining the benefits provided by support-seeking. It may also be that their distancing behaviours from others, although intentional on their own part due to their fears of being rejected, may be negatively interpreted via their general negative cognitive bias (see Shaver & Mikulincer, 2003) as reinforcing the negative views they hold of themselves as unlovable and unworthy of others' receptiveness. Such a bias would then see feelings of self-worth remain low in the weeks having experienced a rejection in the form of a relationship termination and could further account for the lack of increase in esteem identified in Study 1D. Future work examining post-relationship self-esteem would benefit from directly examining the cognitive mechanisms taking place that might provide empirical insight into the observed findings here.

Next, examination of change in positive and negative moods identified individuals fitting a secure attachment classification reported the highest positive mood but with a slight decrease across time and the lowest negative mood with no change. Individuals fitting a fearful-avoidant classification reported no change in either their low positive mood or elevated negative mood. Dismissing- and preoccupied-type individuals' trajectories of positive and negative moods complemented one another; both attachment types reported increasing positive mood over time (with dismissing reporting a greater rate than preoccupied) and also each reported decreasing negative mood (with preoccupied-type individuals this time reporting the greater rate of change).

Given secure-type individuals' earlier-identified resilience with regards to life satisfaction and self-esteem judgements, it is perhaps surprising that such individuals reported a slight decrease in positive mood across time. This is counter to expectations of such individuals' positive mood remaining steadily high. One possible interpretation

of this result could be that it is due to being an outcome of the desire for close relationships that is encapsulated by their low avoidance. While earlier studies here suggested that the experience of and desire for close relationships does not appear to influence cognitive well-being, the result here for secure-type individuals suggests that as length of time without a romantic relationship increases, positive affectivity is impacted upon, manifesting a slight decrease across time. That is, while perceptions of general life quality and self-worth are not affected and remain favourable, in the weeks subsequent to a relationship breakdown, positive mood, while remaining higher than other insecure-type classifications, slightly worsens. This suggests then that such individuals may miss the experience of being romantically involved with another in such a way to influence their general positivity in mood but not enough to affect how they see themselves or their life circumstances. It should be noted that the decrease in positive mood was slight, however, which could be suggestive of such individuals' adaptive management and regulation of affective experience in which positive mood is maintained (e.g., Pereg & Mikulincer, 2004). Indeed, the additional finding of no change across time in negative mood, which was lower than each of the other insecure classification types, is further in keeping with a general adaptive affective regulation and management style.

Individuals fitting a fearful-avoidant classification reported trajectories similar to life satisfaction and self-esteem, reporting no change across time for either of positive or negative mood, with the former remaining steadily low and the latter steadily high. This finding further reinforces the earlier identified adverse cognitive well-being states reported by high anxiety/avoidance individuals, suggesting that the earlier-described potential mechanisms of rumination and non-support-seeking may further manifest steady low positive and high negative moods.

The pattern of trajectory replication continued with preoccupied- and dismissing-type individuals, with both attachment types reporting increases in positive and decreases in negative moods. However what is interesting to note is that, in the case of negative mood change, individuals fitting a preoccupied attachment classification reported the greater rate of decrease over their dismissing-avoidant counterparts (with the reverse pattern true for positive mood change). This may be a reflection, however, of the findings of negative mood change evidenced in Study 1C on the basis of high anxiety. To recapitulate, greater anxiety predicted a greater increase in negative mood upon a relationship ending, which was put forward as reflecting such individuals'

maladaptive affective reactivity tendencies. The greater rate of decrease in negative mood might therefore be a result of this immediate stronger affective response in the days after a relationship breakdown.

The final sets of analyses for Study 1D examined changes in well-being scores in the weeks subsequent to a new relationship forming. Attachment avoidance was found to predict change in life satisfaction, with low avoidance predicting increases in life satisfaction ratings and high avoidance predicting decreases in ratings. This latter finding is particularly interesting as it identifies that the longer a highly-avoidant individual remains in a close, romantic relationship, the less satisfied they feel with their life circumstances. As suggested within Hypothesis 2, a reason for this finding could lie in the changing levels of intimacy that are typically experienced as romantic relationships progress. Berscheid (1985) put forward that the early stages of romantic relationships are typified by closeness that is physical, rather than emotional, in nature with couples demonstrating behaviours suggestive of desire for close physical contact and intimacy. It is as the relationship progresses that intimacy needs increase (e.g., Reedy et al., 1981). Indeed, within an adult attachment perspective specifically, Hazan and Zeifman (1999) draw parallels between the infant development of attachment bonds and that which develops between couple members. They argue that the very initial stage of a relationship, which is characterised by an initial attraction and subsequent flirtation, is less governed by individuals' attachment systems as it is by individuals' sexual mating systems. This is not to say that the attachment system has no role at this early period. Indeed, Hazan and Zeifman highlight that certain behavioural characteristics, such as warmth, responsiveness, and reciprocal liking (e.g., Aron, Dutton, Aron, & Iverson, 1989; Backman & Secord, 1959; Clark, Shaver, & Abrahams, 1999; Curtis & Miller, 1986) captured within attachment theory are highly relevant, but argue that early interactions are foremost governed by sexual drives, producing psychological and physical states of heightened arousal akin to infatuation. It is after a time that couple interactions become more psychologically intimate and change from arousing to calming. Comforting exchanges take place, and self-disclosure of personal information, feelings, and experiences begin to frequent (Altman & Taylor, 1973), which Hazan and Zeifman (1999) suggest leads to the development of the relationship serving as a safe haven. From this description then, the findings of decreasing life satisfaction for highly-avoidant individuals as time in a new relationship progresses appears theoretically coherent. As romantic interactions progress from mainly the physical to more emotional,

with partners divulging personal thoughts and feelings and looking for emotional reassurance and support, such a transition might see the activation of highly-avoidant individuals' attachment systems that then require defensive suppression because of the feelings of discomfort with closeness and intimacy that arise. Being presented with such distress-inducing situations (e.g. Rholes et al., 1998; Rholes et al., 1999) that avoidant individuals have been identified as responding negatively to and as reporting disliking partners who engage in such high-disclosing behaviour (Mikulincer & Nachson, 1991) would see perceptions of, and satisfaction with, life quality decrease. However, for low-avoidance individuals, who rather than experience discomfort with intimacy instead actively desire it, the increase in the above-described intimacy-promoting behaviours would see judgements of life satisfaction increase due to the relationship they are currently in providing them with the romantic experiences they enjoy.

The findings of analyses focusing on changes in self-esteem identified attachment anxiety as a significant predictor, with low anxiety individuals reporting a slight increase across time. While visual presentation of the slopes suggested high anxiety to demonstrate a slight decrease in self-esteem across time, slopes analyses revealed this decline to be non-significant. Considering the finding for low-anxiety individuals, it may be that the first few weeks of a new relationship, which sees the development of intimacy-promoting behaviours such as the aforementioned self-disclosure and comfort- and support-seeking, confirm the positive models of self such individuals hold (that is, beliefs of being worthy of love and responsiveness to needs). Therefore it may be that the finding of increases in judgements of self-esteem is a manifestation of partner responsiveness to attachment needs.

No significant results were found for changes in positive mood, but an interaction approaching significance between anxiety and avoidance for negative mood change revealed that, for individuals fitting the secure classification, the first few weeks of being in a new relationship saw reports of a steady low negative mood with no change across time. Individuals fitting dismissing-avoidance reported the next lowest negative mood that decreased across time, with preoccupied-type individuals reporting a similar pattern, but at a higher baseline level. Lastly, individuals fitting the fearful-avoidant classification reported the highest negative mood, and that which increased across time. The finding that individuals fitting a dismissing-avoidant classification reported a decrease in negative mood is perhaps surprising and counter to earlier findings; individuals reporting high avoidance (that characterises dismissing-avoidance) reported

decreasing levels of life satisfaction, but here reported negative mood change that seemingly contradicts this pattern. It may be that, despite the increasing intimacy that typically develops as a relationship progresses being contrary to dismissing-avoidant individuals' acceptable comfort levels, such behaviours still give rise to confirmation of a loveable self and hence produces affective changes in the form of decreasing negative mood. Furthermore, in their review of the attachment literature examining romantic partner preferences, Holmes and Johnson (2009) put forward that the motive of self-enhancement (e.g., Baumeister, 1982; Greenwald, 1980; Jones, 1973; Kaplan, 1975) may play a role in accounting for partner attractiveness and relationship maintenance. The applicability with regards to the current finding is that, while intimacy-seeking behaviours go against highly avoidant individuals' low-intimacy goals, such behaviours could be argued to be a source of self-enhancement through the positive feedback implied in such behaviour. Why such self-enhancement principles would manifest only changes in negative mood and not produce parallel changes in self-esteem and positive mood is as yet unclear. Future research examining changes in well-being, in particular in this instance negative mood, might benefit from considering this theoretical framework for gaining further insight into the observed patterns here.

That individuals fitting a preoccupied attachment classification reported a similar decrease in negative mood, although at a slower rate, as dismissing-avoidant-type individuals could further support the notion of early relationship behaviours progressing in levels of intimacy as being a potential contributor. Such individuals' slower rate of decrease could be due to the nature of their high anxiety. As earlier described, high-anxiety individuals have been identified as demonstrating a negative bias in their responses to and interpretations of interactions with others (e.g. Pietromonaco & Feldman Barrett, 1997; Kafetsios & Nezelek, 2002) but not to the extent that they prevent themselves entirely from responding positively to partners' positive behaviours (e.g. Shaver & Mikulincer, 2003, as cited in Mikulincer & Shaver, 2005). Therefore, their slower rate of negative mood decrease could be a function of this negative tendency in partner behaviour construal; the developing intimacy in the new relationship would see negative mood decrease, but their hypervigilance and vulnerability to signs of rejection (e.g., Kafetsios & Nezelek, 2002; Simpson et al., 1999) could account for their negative mood decreasing comparatively more slowly than was evidenced by dismissing-avoidant-types.

Individuals fitting a fearful-avoidant classification were the only ‘group’ to report an increase in negative mood. Earlier work here identified high anxiety/avoidance individuals to report the lowest relationship satisfaction (see Figure 4), which was suggested as potentially resulting from their maintaining an emotional distance despite desires for emotional closeness, the negative feelings regarding both themselves and significant others, a negative bias in the attributions they make regarding others’ behaviours, and maladaptive conflict resolution styles. With their romantic profile seemingly rife with sources of tension, this might account for the observed increase in negative mood. Furthermore, their distrust of the intentions of others in combination with their negative perceptions of self as unworthy of love might prevent them from gaining the same self-enhancement benefits from positive, intimacy-promoting partner behaviours that dismissing- and preoccupied-type individuals are argued to enjoy.

Lastly, secure-type individuals’ steadily low negative mood is in keeping with the previously-identified patterns that are suggestive of a general positive state of well-being that seems little influenced by romantic relationship experience.

Summary

Taken altogether, Studies 1A through to 1D outlined an interesting romantic relationship experience profile for each of the attachment classifications that can be derived from anxiety’s interaction with avoidance. Individuals fitting a secure attachment classification report experiencing the most satisfying romantic relationships out of each of the potential classifications and while also report the highest life satisfaction, the extent to which they find their relationships satisfying does not interact with their low anxiety to influence life quality perceptions. Not only do the experiences within their relationships seemingly not influence their feelings of satisfaction with their lives but also neither does simply *having* a relationship. That is, their overall satisfaction with their lives does not appear to hinge upon having access to sources of romantic interaction as their life satisfaction is equally high whether in a relationship or not. Upon experiencing a relationship breakdown, their life satisfaction and self-esteem change minimally, while their low anxiety suggests they experience only little adverse change in positive and negative moods. When entering into a new relationship, however, their low anxiety and avoidance suggests their positivity in life satisfaction and self-esteem increase. This together seems to offer a possible interpretation of secure attachment representing a resilience against potential sources of cognitive and affective discontent and ability to enjoy the positive. That is, neither being without a romantic relationship

nor experiencing a dissatisfying one produces lower well-being ratings, but positive experiences, such as new relationship formation, see well-being improve upon already elevated levels.

For individuals whose anxiety and avoidance are opposite to those characterised by security (i.e. fearful-avoidant), the romantic relationship profile is far less favourable. Individuals fitting the fearful-avoidant attachment classification report experiencing both the lowest relationship satisfaction and lowest life satisfaction. Despite reporting the lowest satisfaction in their relationships, being in a relationship saw a higher life satisfaction reported than when not, suggesting that despite finding romantic experiences less gratifying, their life circumstances are viewed more favourably for having them. Relatedly, similar to secure-type individuals, their level of anxiety was not found to significantly interact with relationship satisfaction in predicting life satisfaction, suggesting such individuals to demonstrate a different type of resilience to relationship experiences. That is, despite their high anxiety seeing them desire close relationships with others, regardless of the nature of their experiences within those relationships, their high anxiety seemingly ensures that their life satisfaction is not influenced and so remains low. Upon experiencing a relationship breakdown, both their life satisfaction and self-esteem suffer, demonstrating the greatest decrease (alongside preoccupied-types) in both. This is particularly noteworthy when considered in conjunction with their reports of self-esteem and life satisfaction in the weeks subsequent to this relationship event; fearful-type individuals do not report change in either of the well-being constructs during the time observed after relationship dissolution, suggesting that the confirmation of perceptions of both negative self and other that may be inferred from such an event sees a longer-lasting detrimental effect on cognitive well-being. That affective well-being stays similarly steadily unfavourable reinforces this. It would be interesting for future work to further examine longer-term changes in well-being by following changes across several romantic relationships. For example, on the basis of cognitive and affective well-being staying steadily low for high anxiety/avoidance individuals in the weeks after a relationship dissolution experience, it may be that in subsequent relationships, having observed here that dissolution produces an immediate substantial decrease, baseline levels are lower still. A further possibility might also be that cognitive and affective recovery from romantic relationship dissolution only starts to occur at a time point beyond that captured within Study 1D, a conjecture that future work could also provide insight into. Lastly, upon entering into a new relationship, although the high

anxiety and avoidance that characterises this attachment classification independently does see increases in life satisfaction and positive mood, the minimal change in self-esteem is an additional indication of such individuals' attachment profile representing impediment to the positive experience that secure individuals enjoy. That their self-esteem suffers upon leaving a current relationship but does not increase upon entering into a new one further highlights such individuals' negative bias producing adverse subjective well-being profiles.

Although preoccupied-type individuals' well-being profiles are similar, the results across the four present studies indicate that individuals fitting this typology, while demonstrate maladaptive tendencies, do benefit from their romantic experiences also. Such individuals report higher life and relationship satisfaction than fearful-type individuals but lower than the remaining two attachment classifications. Similar to fearful individuals, they report higher life satisfaction when in a relationship than not, and their shared high anxiety produces the same lack of influence of relationship satisfaction on their judgements of overall life quality. However, their low avoidance does see life satisfaction ratings increase as time within a new relationship progresses, suggesting that their life perceptions do benefit as their early-stage experiences start increasing in the emotional intimacy they are comfortable with and desire. When considered together, the current set of results appear to present preoccupied-type individuals as able to gain life satisfaction benefits from the signs of partner responsiveness implied in early-stage increases in intimacy, but that whether they find such romantic interactions generally satisfying or not does not serve as a reference point for their reported life satisfaction judgements.

Lastly, their high anxiety sees their self-esteem gain little benefit from the acceptance inherent in a new relationship forming with a romantic partner but sees a greater decrease upon losing a current partner (reinforcing that such individuals do appear to demonstrate a negative cognitive bias). However, despite their stronger cognitive and affective reactions to relationship dissolution, unlike their fearful-avoidant counterparts, such individuals do report recovery in mood, self, and life perceptions across time.

Finally, dismissing-avoidant individuals' relationship and well-being profiles reinforce previous studies' findings that suggest such individuals find the processes encapsulated within romantic experience to cause discomfort. While reporting life satisfaction lower only to secure-type individuals, as with other insecure-types their

relationship experiences do appear to impact upon their cognitive and affective well-being. Life quality is rated to be superior when not in a relationship than when in, and the high avoidance that characterises them suggests that the longer they remain in a romantic relationship, the less favourable their life satisfaction judgements become. This latter point is particularly interesting in considering the high avoidance and low anxiety-based life satisfaction ratings when entering into a new relationship. This suggests that the low anxiety/high avoidance profile that characterises dismissing-avoidant individuals should see that life quality perceptions increase upon entering into a new relationship, but that as the experiences within that relationship give rise to their discomfort with closeness (as such relationships become more emotionally intimate), their judgements regarding how satisfied they feel in their life circumstances decrease. Upon leaving a current relationship, their changes in feelings of life satisfaction and self-esteem are similar to those reported by secure-type individuals. Previous research has identified that secure and dismissing-avoidant individuals report similar levels of self-esteem but, as earlier discussed, the findings of such research suggests that the former attachment group's level represents 'true' self-esteem while the latter's represents a defensive mechanism against their insecurity. Similar here then, dismissing-type individuals' similar reports of self-esteem and life satisfaction decreases could be further evidence of the defensive nature of their attachment systems.

In sum, there was much highlighted within the current set of studies regarding the interactions between adult attachment and relationship experiences in predicting differences in subjective well-being. The aim of the above studies was to explore interpersonal moderators in the associations between attachment and life satisfaction identified in previous research, and to include additional well-being factors put forward as important within the subjective well-being literature. The above discussion of the findings is hoped to provide direction for future work to further examine and test for which specific mechanisms might account for the observed differences. Potential empirical avenues earlier suggested would be beneficial. Furthermore, qualitative work analysing the content of individuals' accounts of their post-relationship experiences may provide deeper insight in the differing bases of secure- and dismissing-type individuals' cognitive and affective well-being in the immediate subsequent weeks, as well as for preoccupied and fearful types.

Discussion earlier highlighted a few limitations of the current study, such as the issue of relationship-length measurement and the nature of measures used preventing

direct testing of the theoretical mechanisms put forward in the discussion section. A further limitation that must be considered is the method of participant recruitment utilised. As described in the methods section, in order to garner as large a participant sample as possible to be able to test for changes in relationship circumstances, a press release detailing types of research being carried out at the Family and Personal Relationships Laboratory at Heriot-Watt was used to raise awareness of the current study. Individuals who heard about the research in this way were provided with information on how to participate in this current study if they wished to. Whilst it could be argued that all types of psychological research rely upon participants who volunteer to take part on the basis of some aspect of the study appealing to them, the unique method of participant accrual utilised in the current study might warrant the results being considered with this in mind. However, that attachment dimension means for anxiety and avoidance appeared in keeping with previous research suggests there to be a level of consistency in the present samples' participant characteristics with previous studies' samples.

With the aims of the present study reached, that is, aims of examining differences in subjective well-being experienced across attachment, the next step in the present series of studies could be made.

Chapter 3. Study 2: Adult Attachment and Social Comparison

Study 1 put forward the theoretical suggestions of attachment intimacy/independence subgoals, hedonic balances between positive and negative mood, self-aspect complexity, and cognitive strategies (that is, rumination versus disclosure) for resolving issues following negative events as potentially accounting for the observed differences in both baseline, and changes in, subjective well-being. A cognitive process not highlighted at this point that is suggested as contributing towards attachment's interactions with relationship experience in predicting differences in well-being is that of social comparison theory and the focus in the remaining studies in the current research series is on examination of the potential role of this theoretical principle. As suggested within the literature review of Chapter 1, research directly examining the associations between attachment and social comparisons is small in number. A review of the existing literature revealed that no study thus far has investigated the relationship between adult attachment and social comparison orientation, comparison direction and identification/contrast tendencies, or affective outcomes to comparison information. It is argued here then that before examining how social comparison might interact with individuals' attachment orientations and relationship experiences, that greater understanding of its direct associations with adult attachment be investigated. The aim of Study 2A is to examine specifically the direct associations listed above, as well as social comparison tendencies' roles in accounting for the differences in cognitive well-being identified in Study 1A.

Study 2A: Adult Attachment and Social Comparison Orientations

There is much in attachment theory to support the contention that differences in social comparison should exist on the basis of anxiety and avoidance, both baseline and as moderated by relationship experiences. In considering a fundamental tenet of attachment theory, Bowlby's (1969, 1973) original conceptualisation of internal working models was applied to the adult experience of attachment in which attachment-based differences were suggested to be characterised by variations in perceptions of self and of other (Bartholomew & Horowitz, 1991). That is, it is the combination of positive/negative perceptions in the complementary sets of self/other models that account for differences in interpersonal perceptions, beliefs, interpretations, and experience. Further important are the differences in accessibility of these

complementary self/other working models. Theorising and research has identified, for example, high-avoidance individuals to demonstrate limited cognitive access to attachment working models due to a defensive suppression resulting from early caregiver non-responsiveness to attachment needs and high-anxiety individuals to demonstrate chronic access due to their hyperactivation tendencies resulting from early inconsistent caregiver responsiveness. In the latter case, chronic activation of the attachment system should increase salience of models of self and other, while in the former case, defensive suppression should see models remain outside of cognitive awareness. As described in Chapter 1, the fundamental tenets of social comparison theory as described by Festinger (1954) describe individuals' perceptions of self relative to other, with later theorising putting forward that social comparison tendencies should be greater when self-related cognitions are activated and more salient to the individual (Stapel & Tesser, 2001) and when there is greater awareness of self in the presence of others (Buunk & Gibbons, 2006). On this basis alone one would expect differences in tendencies to engage in social comparisons (that is, social comparison orientation (Gibbons & Buunk, 1999)) on the basis of attachment anxiety and avoidance, however there are further reasons to expect attachment-based differences to exist.

Differences in interpersonal orientation (that is, interest in the thoughts and feelings of others, being influenced by others' moods and opinions, and interest in self-disclosure), self-uncertainty, and conformity have been each suggested by Gibbons and Buunk (1999, 2006) as defining characteristics of social comparison orientation. When applying these characteristics to those evidenced by differences in attachment anxiety and avoidance, one would expect that as avoidance increases, interpersonal orientation and salience of models of self and other decrease, and as anxiety increases, self-uncertainty and conformity (which is argued here to represent a desire for, and behaviour promoting, acceptance into social norms), as well as self-other working model salience, should also increase. Therefore, Hypothesis 1 put forward:

Hypothesis 1: Greater attachment anxiety will predict greater social comparison orientation, while greater attachment avoidance will predict lesser social comparison orientation.

As highlighted within Chapter 1's literature review, more research appears to find evidence to support Bower and colleagues' selective affect-cognition priming model

(Bower, 1991; Forgas et al., 1990) than Wills' downward comparison theory (Wills, 1981). To recapitulate, Wills' downward comparison theory (1981) puts forward that individuals low in subjective well-being (particularly self-esteem) are in the greatest need of self-enhancement and so should demonstrate a downward comparison tendency to perceived worse-off others in an attempt to increase positivity. Meanwhile, the selective affect-cognition priming model, similar to Beck's (1967, 1976) cognitive model of depression, puts forward that individuals low in subjective well-being and with negative self-perceptions should demonstrate a tendency to make upward comparisons to perceived better-off others due to cognitive biases perpetuating and reinforcing negative self-perceptions. On the basis of selective affect-cognition priming then, for individuals high in anxiety, whose negative models of self encapsulate feelings of lesser self-worth and lovability, tendencies to engage in upward comparisons to perceived better-off others should be greater than for individuals low in anxiety. For attachment avoidance, however, it is argued that no pattern with regards to comparison direction will be identified. The theoretical basis above for directional differences lies in perceptions of self, which are determined by individuals' levels of anxiety (e.g., Klohnen & Luo, 2003) and not levels of avoidance. Hypothesis 2 therefore stated:

Hypothesis 2: Greater attachment anxiety will predict greater upward comparison orientation and lesser downward comparison orientation. Greater avoidance, meanwhile, will not be predictive of comparison direction.

The negative cognitive bias described above is anticipated to extend to tendencies in identification and contrast. That is, high-anxiety individuals' negative models of self are expected to produce general unfavourable comparison habits. That is, while it is anticipated (Hypothesis 2) that high anxiety individuals should demonstrate a greater tendency to engage in upward comparison and a lesser tendency to engage in downward, it is suggested that when comparing upward, high anxiety individuals should focus primarily on that which differentiates them from those perceived better-off others. That is, they should *contrast* themselves from such superior others (producing less favourable self-evaluations as a result). When comparing downwards, their negative cognitive bias should see a greater focus on that which links them to the perceived worse-off others they are comparing against, that is, they should *identify* themselves and their qualities with those perceived as worse-off than they are. For attachment avoidance, it is

anticipated that greater avoidance should be predictive of greater contrast generally and lesser identification, that is, contrast and identification regardless of whether the direction of comparison is upward or downward. Research by Mikulincer et al. (1998) found that attachment avoidance related to underestimation of self-other similarity, while Gabriel et al. (2005) found greater avoidance to predict a decrease in perceptions of self-other similarity across time. This may serve as further support of a cognitive predisposition in highly-avoidant individuals to maintain a psychological distance from others, in the above instances, manifesting as greater estimates of self-other dissimilarity. In the current study, therefore, it is anticipated that evidence of such a cognitive distancing should manifest in general greater tendencies to contrast from, and lesser tendencies to identify with, others in their social environments. Hypothesis 3 was therefore phrased as:

Hypothesis 3: Greater attachment anxiety will predict greater tendencies for upward contrast and downward identification comparisons. Conversely, greater attachment avoidance will predict greater general contrast tendencies and lesser general identification tendencies.

The final focus of Study 2A was on examination of the potential mediating roles of social comparison tendencies and the well-being factors of life satisfaction and self-esteem. The social comparison literature generally finds that upward comparisons to perceived better-off others produce less favourable self-evaluations and decreased well-being, while downward comparisons to perceived worse-off others produce the opposite pattern (e.g., Diener & Fujita, 1997; Gibbons, 1986; Morse & Gergen, 1970; Smith & Insko, 1987; Taylor, Buunk, & Aspinwall, 1990; Tesser, 1988; Wood, Taylor, & Lichtman, 1985). For research examining processes suggestive of identification and contrast, evidence emerges to suggest that the more favourable comparisons (that is, upward identification and downward contrast) to be more beneficial for well-being (both cognitive and affective) than the less favourable comparisons of upward contrast and downward identification (e.g., Brown et al, 1992; Buunk et al., 1990; Cash et al., 1983; Collins, 1996; Lockwood & Kunda, 1997; Swallow & Kuiper, 1987; VanderZee et al., 1996; Ybema & Buunk, 1995). The focus of the final aspect of Study 2A was on examining general tendencies in upward/downward identification/contrast comparisons

as potential mediators for the associations between attachment anxiety and avoidance and cognitive well-being. The final Hypothesis for this study was therefore:

Hypothesis 4: Upward contrast and downward identification will mediate the relationship between attachment anxiety and the well-being factors of life satisfaction and self-esteem. Specifically, upward contrast and downward identification will mediate between attachment anxiety and both life satisfaction and self-esteem.

Method

Participants

The current study comprised 140 participants of whom 118 were female (84.3%) and 22 (15.7%) were male. Age ranged from 18 to 75 ($M = 34.0$, $SD = 13.3$). The majority of participants resided in the United Kingdom and United States (41.4% and 42.1% respectively) with the remaining sample being spread internationally.

Measures

Demographic Questionnaire. Participants were asked to complete a demographic questionnaire comprising questions regarding gender, age, countries of origin and residence, relationship status, sexual orientation, and length of relationship if applicable (in years and months).

Adult Attachment. Participants' attachment orientation was measured using the Experiences in Close Relationships – Revised scale (Fraley et al., 2000). Cronbach's alphas for attachment anxiety and avoidance were both .94.

Social Comparison Orientation. Participants' general social comparison tendencies were measured using a slightly modified version of the Iowa-Netherlands Social Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999) adapted by Butzer and Kuiper (2006). In its original form, the INCOM is a Likert-type scale and consists of 11 items assessing how often individuals generally compare themselves and their situations with others. Sample items include "I always pay attention to how I do things compared with how others do things" and "I often try to find out what others think who face similar problems as I face". Responses range from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), with the mean of participants' responses used to indicate general social comparison orientation. The slight modification concerned removing words pertaining to frequency from the items (in the two examples provided above, the modified items read as "I pay attention to how I do things compared with

how others do things” and “I try to find out what others think who face similar problems as I face”) and altering the responses to ranging from 1 “Never” to 5 “Always”. The scale in its original form has been well-validated and has been shown in previous research to have good reliability (e.g., Gibbons & Buunk 1999). In Butzer and Kuiper’s (2006) study, reliability for the modified measure (COMPG) was high; Cronbach’s alpha for the current study was .88.

In order to assess participants’ upward and downward social comparison tendencies, two subscales created by Butzer and Kuiper (2006) were employed. The upward social comparison subscale, labelled COMPU, consists of 6 items with responses ranging from 1 (“Never”) to 5 (“Always”). Example items include “When I consider how I am doing socially (e.g., social skills, popularity), I compare with others who are more socially skilled than I am” and “When things are going poorly, I think of others who have it better than I do”. As with the COMPG, reliability for this subscale was high; Cronbach’s alpha in the current study was .88. The downward social comparison subscale, labelled COMPD, also consists of 6 items with responses ranging from 1 (“Never”) to 5 (“Always”). Example items include “When I wonder how good I am at something, I compare myself with others who are worse at it than I am” and “When evaluating my current performance (e.g., how I am doing at home, work, university etc.), I compare with others who are doing worse than I am”. As with the COMPU, previous reliability has been high (Butzer & Kuiper, 2006); in the current study, Cronbach’s alpha was .88.

The final measure used to assess social comparison tendencies was a slightly modified version of the identification-contrast social comparison scales developed by Van der Zee and colleagues (Van der Zee, Buunk, Sanderman, Botke, & Van den Bergh, 1999, 2000). The identification-contrast scales include in total 12 items that assess upward and downward identification-contrast comparison processes, with 3 items for each of upward identification, downward identification, upward contrast, and downward contrast. Select items were slightly reworded to move away from the scales’ original health-orientated focus to allow for a more generalised assessment (e.g., “health status” to “situation”). As with the original scales, responses ranged from 1 (“Not at all”) to 5 (“Strongly”). Example items include: for upward-identification “When I meet others who are experiencing fewer problems than I am, it makes me happy realising that it is possible for me to improve”; for downward-identification “When I see others who are doing worse, I fear that my own situation could decline”; for upward-contrast “When I

think about others who are doing better than I am, I feel frustrated about my own situation”; and for downward-contrast “When I see others who experience more difficulties than I do, I am happy that I am doing so well myself”. Cronbach’s alpha for each of the subscales has been high in previous studies (Van der Zee et al., 1999, 2000); in the current study, Cronbach’s alpha for upward-identification, downward-identification, upward-contrast, and downward-contrast were .81, .81, .82, and .80 respectively.

Life Satisfaction. Life satisfaction was assessed using the Satisfaction with Life Scale (SWLS) in its original form. Cronbach’s alpha was .90.

Self-esteem. Self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965), with Cronbach’s alpha revealed as .89.

Procedure

The current study was carried out online. Participants were recruited through online advertisement (for example, Hanover Psychological Research on the Net) where they could read information on the nature of the study, provide informed consent to take part and complete the measures. Upon completion, participants were debriefed on the aims of the study.

Results

Factor Analysis.

Because the identification-contrast social comparison measure was adapted from one created by van der Zee et al. (1999, 2000), a factor analysis was carried out to confirm there were four clear factors representing upward identification, downward identification, upward contrast, and downward contrast. A principal components factor analysis with varimax rotation indicated that the data was best described by a 4-factor solution that accounted for 66.9% of the total variance.

Table 26. Identification and Contrast Factor Loadings

	Factor 1	Factor 2	Factor 3	Factor 4
Downward Contrast 1			.65	
Downward Contrast 2			.82	
Downward Contrast 3			.86	
Downward Contrast 4			.65	
Upward Contrast 1	.78			
Upward Contrast 2	.54			
Upward Contrast 3	.83			
Upward Contrast 4	.75			
Downward Identification 1				.79
Downward Identification 2				.74
Downward Identification 3				.82
Downward Identification 4				.64
Upward Identification 1		.73		
Upward Identification 2		.83		
Upward Identification 3		.78		
Upward Identification 4		.77		

Examination of the rotated component matrix (see Table 26) confirmed that each factor was defined by high loadings on the corresponding items.

Descriptive statistics and correlations

The means and standard deviations for each of the variables of interest are presented in Table 27.

Table 27. Descriptive statistics

	Mean	Standard Deviation
Attachment Anxiety	3.06	1.27
Attachment Avoidance	2.94	1.15
Social Comparison Orientation	3.20	.67
Upward Comparison Orientation	2.89	.83
Downward Comparison Orientation	2.39	.71
Upward Identification	2.66	.79
Downward Identification	1.87	.69
Upward Contrast	2.66	.89
Downward Contrast	2.81	.82
Life Satisfaction	23.79	6.87
Self-Esteem	16.03	2.51

The mean score for attachment avoidance appears in keeping with that identified with previous research, while attachment anxiety appears to be slightly lower (Fraley, 2011), even when considering the mean age of the current sample. Standard deviations for both attachment dimensions however are consistent with those that have been

previously identified. The mean for life satisfaction, as in Study 1, appeared to be slightly elevated in comparison to previous research (e.g., Hwang et al., 2009; Perrone, Webb, & Vance, 2007). Lastly, the means for the social comparison, upward comparison, and downward comparison scales are similar to those reported by Butzer and Kuiper (2006), with the former two slightly lower and the latter slightly higher.

Attachment and Social Comparison

Hypothesis 1 put forward that greater attachment anxiety would predict a greater general social comparison orientation while greater attachment avoidance would predict a lesser orientation. General social comparison scores were regressed onto the two attachment dimensions at the first step and their interaction term at the second step using multiple linear regression. As in previous studies, the interaction term was created using the methods outlined by Aiken and West (1991).

The model was significant ($F = 4.81$ (3, 139) $p < .01$) and accounted for 7.6% of the total variance (Adjusted R^2). Both attachment anxiety ($\beta = .32$, $p = .001$) and avoidance ($\beta = -.19$, $p < .05$) were significant predictors of general social comparison orientation, however, their interaction was not. Examination of the coefficients suggests that as anxiety increases, general tendency to make comparisons also increases while as avoidance increases, general tendency to make comparisons with others decreases. Hypothesis 1 was therefore supported.

Hypothesis 2 predicted differences in upward and downward social comparisons on the basis of attachment anxiety. First, upward social comparison orientation was examined; the model was significant ($F = 9.46$ (3, 138) $p < .001$) with the adjusted R^2 revealing it to account for 15.5% of the variance. Attachment anxiety was a significant predictor ($\beta = .41$, $p < .001$), suggesting that as anxiety increases, so too does the tendency to make upward comparisons. Neither avoidance nor its interaction with anxiety were significant predictors however. Hypothesis 2 was therefore supported also.

Next, downward social comparison orientation was examined; surprisingly the anxiety, avoidance, and interaction model was not significant ($F = .746$ (3, 138) $p = .527$) with none of the attachment variables predicting downward social comparison orientation. Hypothesis 2 was therefore only partially supported; while greater attachment anxiety significantly predicted a greater tendency to compare upward, no further significant predictors were identified.

Hypothesis 3 predicted greater tendencies towards upward contrast and downward identification as anxiety increases, while greater contrast and lesser identification

comparison tendencies were predicted as avoidance increases. For each of the four different identification-contrast social comparisons, anxiety, avoidance, and their interaction term were entered into the regression equation. Table 28 presents the results of these analyses.

Table 28. Attachment anxiety, avoidance, and identification-contrast comparisons

	Model	B	SE B	β	R ² Change	F Change
<i>Upward Contrast</i> (20.2%) F = 12.66 (3, 138) p < .001	Anxiety	.01	.07	.01		
	Avoidance	-.84	.07	-.64***	.22	18.84***
	Anx*Avd	.19	.04	.22***	.00	.44
<i>Downward Identification</i> (12.4%) F = 7.49 (3, 138) p < .001	Anxiety	.01	.07	.01		
	Avoidance	-.84	.07	-.64***	.13	10.34***
	Anx*Avd	.19	.04	.22***	.01	1.70
<i>Downward Contrast</i> (4.3%) F = 3.07 (3, 138) p < .05	Anxiety	.01	.07	.01		
	Avoidance	-.84	.07	-.64***	.05	3.55*
	Anx*Avd	.19	.04	.22***	.01	2.05
<i>Upward Identification</i> F = 1.21 (3, 138) p = .310	Anxiety	.01	.07	.01		
	Avoidance	-.84	.07	-.64***	.01	.80
	Anx*Avd	.19	.04	.22***	.02	2.02

*p < .05

***p < .001

As can be seen in Table 28, only the model predicting upward identification was non-significant with none of the anxiety, avoidance, and interaction variables predicting differences in upward identification comparisons. For the remaining social comparison tendencies, greater attachment anxiety predicted increased tendencies to contrast from perceived better-off others, and to both contrast from and identify with perceived worse-off others. Greater attachment avoidance meanwhile was found to predict a lesser tendency to contrast from worse-off others only.

Next, separate general identification and contrast variables were calculated (a mean score comprising both upward and downward identification items for the former, and similarly for upward and downward contrast items for the latter) to test Hypothesis 3's prediction of greater avoidance predicting greater contrast and lesser identification. Attachment avoidance was found not to be a significant predictor for either contrast ($\beta = -.11$, $p = .191$) or identification ($\beta = -.08$, $p = .391$), however for the latter variable, the interaction between anxiety and avoidance was approaching significance ($\beta = .14$, p

<.09) with the model being marginally significant ($F = 2.56 (3, 138) p <.06$). Slopes were plotted to examine the emerging trend and are presented in Figure 22.

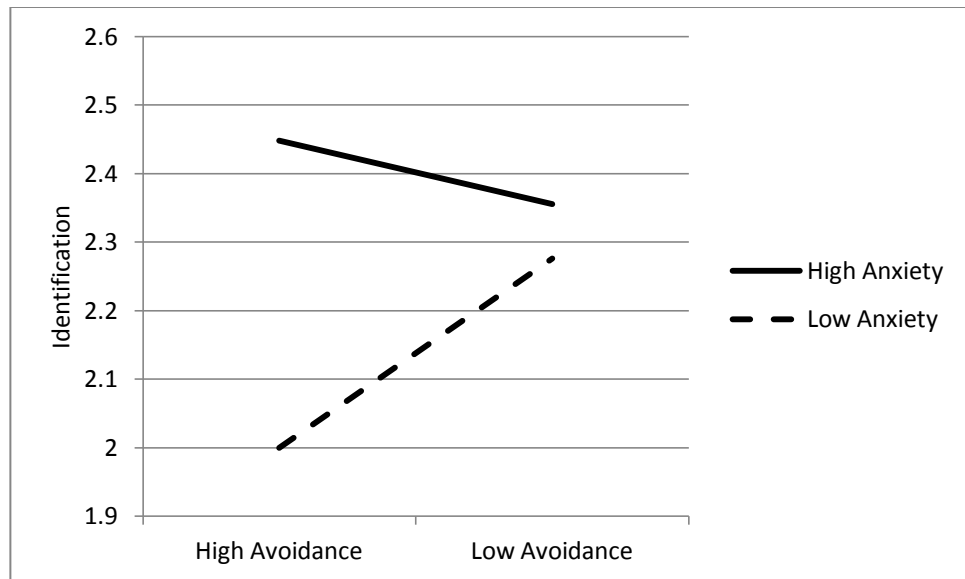


Figure 22. Attachment Anxiety and Avoidance as Predictors of General Identification

The above Figure (which must be interpreted in the context that the interaction did not quite reach significance and so is only an indication of emerging trends) appears to suggest that individuals fitting a dismissing-avoidant attachment classification (high avoidance/low anxiety) report the lowest tendency to identify with others, with the remaining attachment classification groups reporting similar levels.

Hypothesis 3 was therefore only partially supported.

Adult Attachment, Identification/Contrast Comparisons, and Well-Being

Hypothesis 4 next predicted identification and contrast comparisons to partially mediate between both anxiety and avoidance and well-being outcomes life satisfaction and self-esteem. Specifically it was predicted that upward contrast and downward identification would serve as mediators for anxiety.

According to Baron and Kenny (1986), in order to identify a mediation effect, four conditions must be satisfied. Firstly, the independent variable must be identified as significantly predicting the dependent variable. Next, it must be established that the independent variable significantly predicts the mediator. The third condition to be met is that the mediating variable must predict the dependent variable when both the independent and mediating variables are predictors (that is, whilst controlling for the

independent variable). The final condition is that, with the addition of the mediating variable in the model, the relationship between the independent variable and the dependent variable must either reduce (suggesting partial mediation) or become non-significant. Sobel tests can then be performed to determine whether this reduction is significant.

First, upward contrast comparison tendency was tested as a mediator between attachment anxiety (independent variable) and life satisfaction (dependent variable). Linear regression revealed attachment anxiety to significantly predict life satisfaction ($\beta = -.40$, $p < .001$, Adjusted $R^2 = .15$), such that increases in attachment anxiety predicted decreases in life satisfaction, satisfying the first condition. Satisfying the second condition, attachment anxiety significantly predicted upward contrast comparison tendency ($\beta = .47$, $p < .001$, Adjusted $R^2 = .21$), such that increases in attachment anxiety predicted increases in tendency to contrast from perceived better-off others. Next, attachment anxiety and upward contrast tendency were both entered into the regression equation to test their predictive quality for life satisfaction; upward contrast tendency was still a significant predictor of life satisfaction whilst controlling for attachment anxiety ($\beta = -.26$, $p < .01$, Adjusted $R^2 = .19$), thus satisfying the third condition. Finally, examination of the attachment anxiety variable revealed a reduction did indeed occur (see Figure 23) with Sobel testing confirming this reduction to be significant ($t = -2.70$, $p < .01$).

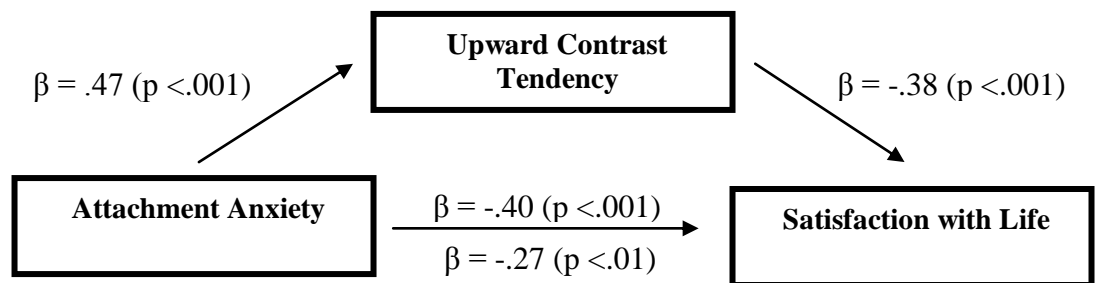


Figure 23. Upward Comparison Tendency as Partial Mediator between Anxiety and Life Satisfaction

The above analyses support Hypothesis 4; upward contrast comparison tendency was identified as a partial mediator between attachment anxiety and satisfaction with life, suggesting that tendency to contrast from perceived better-off others (and hence,

focus on the differences between the self and higher-regarded others) contributes towards the observed differences in overall satisfaction with life.

Next, downward identification tendency was examined as a mediator. The same analytic strategy as employed above was utilised. With attachment anxiety already revealed as a significant predictor of life satisfaction, its predictive value for downward identification was next examined; the relationship was indeed significant ($\beta = .37$, $p < .001$, Adjusted $R^2 = .13$) suggesting that as anxiety increases, so too does tendency to identify with perceived worse-off others. When both anxiety and downward identification tendency were entered into the regression equation, however, the latter was no longer significant and hence was ruled out as a possible mediator at this point.

Next, the potential mediating role of upward contrast and downward identification comparison tendencies for the association between attachment anxiety and self-esteem were examined. Regression analyses revealed upward contrast did indeed serve as a partial mediator (see Figure 24) with Sobel tests confirming this ($t = -2.29$, $p < .05$).

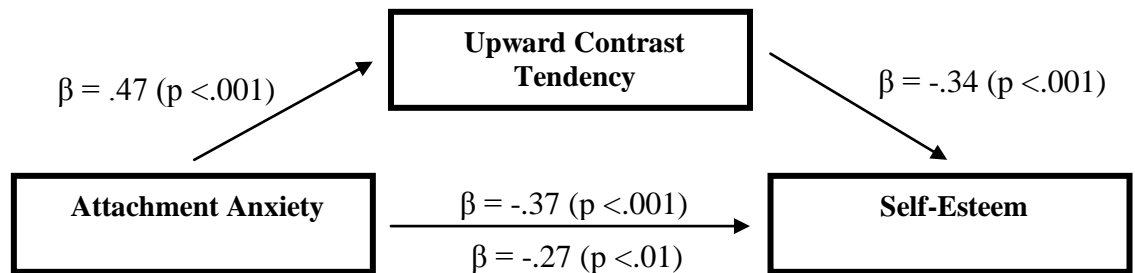


Figure 24. Upward Contrast Orientation as Mediator between Anxiety and Self-Esteem

Similar to life satisfaction, upward contrast tendency proved to be the only mediating variable predicted in Hypothesis 4 to satisfy the conditions put forward by Baron and Kenny (1986).

Although not hypothesised, to counter the possibility of the relationship between upward contrast and attachment anxiety being attributable to the differences in self-esteem associated with attachment anxiety rather than attachment anxiety itself, self-esteem was examined as a mediator. Mediation analyses revealed the significance of the standardised beta coefficients did not reduce upon inclusion of both the independent and mediating variables, suggesting that rather than high-anxiety individuals' lower self-esteem (and conversely low-anxiety individuals' higher self-esteem) contributing

towards their tendencies to engage in adverse upward comparisons, it is such comparisons instead that are contributing towards their self-esteem.

Study 2B: Adult Attachment and Social Comparison: A Diary Study

With the findings of Study 2A revealing attachment anxiety and, to a lesser extent, attachment avoidance as predictors of social comparison orientation as well as the types of comparisons typically made, the aim of Study 2B was to examine the affective circumstances surrounding actual comparisons individuals make on a day-to-day basis. More specifically, the aim of this current study was, through the use of diary-study methodology, to examine the predictive value of attachment regarding individuals' mood both before and after naturalistic comparisons are made, as well as reported mood change in response to the comparison information encountered. Further examination of the roles of upward and downward comparisons in predicting differences in affective experience was also included.

The first focus of Study 2B was on examining attachment-based differences in individuals' self-reported mood before they engage in a comparison. The findings of Study 2A provided support for the selective affect-cognition priming model (Bower, 1991; Forgas et al., 1990) rather than Wills' downward comparison theory (Wills, 1981), suggesting that poorer subjective well-being leads to making adverse comparisons (rather than leading to self-benefitting favourable comparisons) that will serve to maintain such individuals' poorer state of mind. As discussed within Study 2A, individuals high in attachment anxiety are characterised by maladaptive cognitive biases; such individuals' working models of self give rise to perceptions of worthlessness and as being unlovable, leave them vulnerable to negative interpretation of both interpersonal situations and the significant others such situations concern, and to report a reduced self-concept complexity (with reduced clarity amongst the aspects of self within their associative networks (Mikulincer, 1995)), a characteristic found in previous research to be associated with poorer subjective well-being (see Rafaeli-Mor & Steinberg, 2002)). Furthermore, research has consistently identified high-anxiety individuals to report poorer mood states in comparison to secure individuals (e.g., Barry et al., 2007; Simpson et al., 2007; VanBuran & Cooley, 2002; Wei et al., 2004). With research (e.g., Wheeler & Miyake, 1992) generally finding evidence to contradict Wills' downward comparison theory (that it is individuals low in well-being who will engage in comparisons to perceived worse-off others in an attempt to improve their subjective

states), it is argued here that it will be individuals who are low in anxiety who will report lower pre-comparison mood. The basis of this reasoning lies in the findings of research examining social comparisons and subjective well-being finding the opposite pattern to that put forward in Wills' downward comparison theory (1981); individuals low in anxiety, by virtue of their attachment-based characteristics that see positive working models of self and more favourable interpretations in the interpersonal situations they experience, should be more likely to use social comparison to try to improve feelings of subjective well-being. This expectation is further supported by the earlier findings identified in Study 2A that showed lower anxiety to be predictive of lesser tendency to engage in unfavourable upward contrast and downward identification comparisons, suggesting such individuals to be able to use social comparison to their advantage and to improve current state of well-being. As such, it was first hypothesised that:

Hypothesis 1a: Irrespective of comparison direction, attachment anxiety will be predictive of pre-comparison mood, such that as anxiety decreases, pre-comparison mood decreases also.

It was also anticipated that post-comparison mood differences should exist on the basis of attachment anxiety. The findings of Study 2A focusing on identification and contrast suggested high-anxiety individuals to differ in the nature of the information gleaned from social comparison processes; higher-anxiety individuals demonstrated a propensity to focus on comparison information in such a way as to promote inferior self-views, while lower-anxiety individuals demonstrated a lesser propensity. As such, one would expect high anxiety, when not specifying the direction of the comparison being made (because such comparison information can be construed in a way to maintain their negative perceptions), to be predictive of reporting a lower post-comparison mood than for low anxiety. It was therefore hypothesised:

Hypothesis 1b: Irrespective of comparison direction, attachment anxiety will be predictive of post-comparison mood, such that as anxiety increases, post-comparison mood decreases.

The next focus of empirical consideration was on whether comparison direction did indeed serve to further influence attachment-based differences in affective

experience surrounding social comparison. The first point of interest was on examining the predictive value of upward comparison and attachment anxiety on individuals' pre-comparison moods. The nature of the anticipated associations surrounding pre-upward comparison mood was a less clear one. On the one hand, high-anxiety individuals' less favourable cognitive biases in comparison to their low-anxiety counterparts could see the latter report lower moods before engaging in an upward comparison because they are argued to use comparison information to boost their subjective (in this case, affective) well-being. However, the findings of Study 2A did not indicate anxiety-based differences in upward identification comparisons, suggesting that low-anxiety individuals are no more or less likely to engage in this advantageous type of comparison than their high-anxiety counterparts. However, low-anxiety individuals did demonstrate a tendency away from upward contrast and, although not further reinforced by a significant finding for increased upward identification, this pattern may hint at a general ability within such individuals to focus less on disadvantageous information and more on information that is beneficial to the self. Indeed, research within the adult attachment literature suggests low anxiety to be predictive of and associated with a more positive cognitive bias (see Shaver and Mikulincer's (2003) discussion of the negative cognitive bias evidenced in high-anxiety individuals). On this basis then, the following hypothesis was formed:

Hypothesis 2a: Before upward comparison, attachment anxiety will be predictive of pre-comparison mood, such that as anxiety decreases, pre-comparison mood decreases also.

In considering anxiety-based differences in the moods individuals report after having engaged in upward comparison, it was anticipated that high-anxiety individuals' greater reliance on others for validation of the self (which social comparison is argued to be a cognitive strategy to judge self-worth or -ability on a given characteristic) as well as greater affective reactivity (e.g., Mikulincer & Orbach, 1995; Meyer et al., 1998) should, when coupled with the earlier identified greater tendency to contrast from perceived better-off others, produce a lower mood in comparison to low-anxiety individuals. As such, it was anticipated that:

Hypothesis 2b: After upward comparison, attachment anxiety will be predictive of post-comparison mood, such that as anxiety increases, post-comparison mood decreases.

Having focused on the potential influence of upward comparison, the next aim of the present study was to examine the additive effect of downward social comparison on individuals' attachment-based differences in affective experience. Study 2A revealed there to be no attachment-based differences in tendencies to engage in general downward comparison (that is, regardless of consideration of any identification and contrast processes that may be occurring). However, the later findings examining specifically the differences in the nature of downward comparisons individuals typically engage in revealed high anxiety to be predictive of greater tendencies to make downward identification and, to a lesser extent, downward contrast comparisons also. Based on these identified differences it should be expected that anxiety-based differences in the affective factors surrounding downward social comparison should exist also. In considering pre-downward comparison mood, as indicated in the theorising leading to Hypothesis 2a, the nature of anxiety's predictive value is a less clear one. Study 2A revealed that low-anxiety individuals demonstrated a lesser tendency to identify with downward comparison targets. However, also revealed was a lesser tendency (though to a lesser extent) to contrast from downward comparison targets, suggesting an overall tendency for low-anxiety individuals not to compare the self with perceived worse-off others. On the basis of these two non-complementary patterns in downward comparison, predicting anxiety-based differences in pre-downward comparison mood is problematic. Low-anxiety individuals' suggested ability to utilise social comparison information to their advantage and improve subjective well-being may see a lower pre-downward comparison mood because their lesser tendency to identify with perceived worse-off targets may allow them to gain well-being benefits. However, their additional lesser tendency to contrast from downward targets may limit such targets' ability to serve as a potential source of self-enhancement. Because no clear association could be discerned, attachment anxiety as a predictor of pre-downward comparison mood was still chosen to be investigated but the direction of the association (that is, either negative or positive) was not specifically hypothesised.

Research Question 1: Before downward comparison, attachment anxiety will be predictive of pre-comparison mood.

As highlighted above, Study 2A revealed there to be no attachment-based differences in tendencies to engage in comparison with perceived worse-off others (that is, downward comparison), however the differences identified in downward contrast and identification further reinforce the notion that differences should exist in how individuals construe and therefore respond to downward comparison information. Greater attachment anxiety was found to predict greater tendency to engage in downward identification, that is, to focus on similarities between the self and the perceived worse-off target other. On this basis it could be expected that greater attachment anxiety predicts a poorer post-downward comparison mood. However, greater attachment anxiety was also found to predict (although to a lesser extent) a greater tendency towards downward contrast also, that is, to focus on the differences between self and other. On this different basis then, it could also be expected that greater attachment anxiety predicts a higher post-downward comparison mood due to high-anxiety individuals' greater reliance on others for self-validation and greater positive affective experience in response to being presented with favourable comparison information. However, even this potentiality must be followed by the theoretical caveat that, due to high-anxiety individuals' negative biases, although they might benefit from downward comparison information, they may demonstrate a self-disserving reluctance to accept the positive information that would see a benefit to self-evaluation, reducing the positive effect such information would have on their mood.

Due to the above conflicting possibilities each being theoretically viable, similar to Research Question 1, a hypothesis was formed on the predictive value of attachment anxiety on post-downward comparison mood but without focus on the direction of the anxiety/post-mood association:

Research Question 2: After downward comparison, attachment anxiety will be predictive of post-comparison mood.

The final focus of Study 2B was on anxiety-based differences in mood change in response to the naturalistic comparisons individuals engage in. In considering mood change in response to general comparison, that is, regardless of upward or downward direction, it was believed that, based on both theory and findings of Study 2A, greater anxiety would be predictive of a greater decrease in mood. As earlier highlighted, the adult attachment literature has generally found evidence to support the theoretical

contention that greater attachment anxiety is characterised by negative cognitive biases that manifest adverse reactions to their social environments and experiences. This bias was further supported by the Study 2A findings of increased tendency to identify with downward and contrast from upward targets, the cognitive consequences of which would serve to maintain negative self-perceptions and reduced subjective well-being. With regards to the affective consequences, it was anticipated that, because of the negative bias in comparison interpretation, affective response to general comparisons would be negative. Furthermore, research has previously identified high-anxiety individuals to be characterised by heightened emotional experience, such that they are more emotionally reactive with a lesser ability to suppress negative affect and inhibit emotional spreading (e.g., Mikulincer & Orbach, 1995), the latter point being suggested here as resulting from less clearly-defined associative networks (Mikulincer, 1995) leading to the affective ‘spill-over’ encapsulated within Linville’s (1985, 1987) self-complexity model. With all of these theoretical principles considered together, Hypothesis 3a read as:

Hypothesis 3a: Irrespective of comparison direction, attachment anxiety will be predictive of mood change, such that greater attachment anxiety will predict a greater decrease in mood.

The next focus of empirical consideration was the role of comparison direction in interacting with anxiety in predicting differences in mood change. Greater attachment anxiety was found to predict increased upward contrast in Study 2A, suggesting a propensity for high-anxiety individuals to focus on that which differentiates them from perceived better-off others. As such, when presented with an upward comparison target, it was anticipated that high-anxiety individuals would experience a greater decrease in mood both due to such comparison information resulting in negative self-evaluations as inferior (thus confirming the negative self-views determined by their negative working models of self) and to their greater affective reactivity. For low-anxiety individuals who demonstrate a lesser tendency to contrast from perceived better-off others and have shown moderate affective reactivity in previous research (Mikulincer & Orbach, 1995), mood change in response to upward comparison information would be smaller. As such, it was hypothesised that:

Hypothesis 3b: After having engaged in upward comparison, attachment anxiety will be predictive of mood change, such that greater anxiety will predict a greater decrease in mood.

The final area of focus in Study 2B was on mood change in response to downward comparison. As in previous hypotheses, the anticipated association between anxiety's interaction with downward comparison in predicting change in mood was not clear-cut. Due to high-anxiety individuals being revealed to report greater tendencies to engage in downward identification and, to a lesser extent, downward contrast, this suggests that such individuals may indeed construe downward comparison information in both beneficial and adverse ways. If a hypothesis were made on the basis of downward identification tendencies, it would be anticipated that for high-anxiety individuals, downward comparison would produce a decrease in mood; if a hypothesis meanwhile were to be made on the basis of downward contrast, high-anxiety individuals' mood should benefit, although due to such individuals' negative biases it would be expected that their increase in mood would be to a lesser extent than that reported by low-anxiety individuals. Due to the strength of the association between anxiety and downward identification being greater than the association for downward contrast, it was reasoned that this pair of associations suggested a greater tendency towards more adverse (i.e. identification) style of downward comparison and as such, it was hypothesised:

Hypothesis 3c: After having engaged in downward comparison, attachment anxiety will be predictive of mood change, such that greater anxiety will predict a decrease in mood.

All of the above hypotheses focused on the predictive value of attachment anxiety only; attachment avoidance was not anticipated to be predictive of either pre-/post-comparison mood or mood change in response to comparison information. The reasoning behind this expectation was due to the theoretical contention that it is individuals' perceptions regarding the positivity or negativity of their self-worth (i.e. their working models of self) that should be a major influence in how they use and respond to comparison information. To recapitulate the discussion considering attachment-based qualities that would provide theoretical bases to expect differences in social comparison, the dispositional quality put forward by Gibbons and Buunk (2006) that was most relevant to avoidance-based differences was that of interpersonal

orientation. Specifically, Gibbons and Buunk (2006) put forward that individuals who are interested in the thoughts and feelings of others and demonstrate interest in self- and other-disclosure should engage in comparisons more. Other dispositional qualities (such as self-uncertainty) were more relevant to attachment anxiety. It was reasoned that the interpersonal orientation that applies to attachment avoidance (that is, greater orientation with lower avoidance) would not allow for avoidance-based differences in affective experience surrounding individuals' naturalistic social comparisons to be predictable. However, it could be argued that, due to high-avoidance individuals' defensive suppression of emotional experience (e.g., Fraley & Shaver, 1997; Kotler et al., 1994; Wei et al., 2005) that greater avoidance should predict lesser mood change in response to comparison information. However, whether this mood change would be in an upward or downward direction is unclear on the basis of the dispositional features that characterise attachment avoidance and hence the decision was made to focus hypotheses and therefore empirical examination on anxiety's predictive value.

Method

Participants

The current study had a sample size of 89 participants, 52 (58.4%) of whom were female and 37 (41.6%) were male. Age ranged from 18 to 45 ($M = 23.5$, $SD = 4.7$). All participants were students attending Heriot-Watt University; 32 (36.0%) identified themselves as White Scottish, 7 (7.9%) as White Irish, 16 (18.0%) as White English, 27 (30.3%) as White Other, 5 (5.6%) as Asian Chinese, with the remaining 2 participants identifying themselves as Black African and Other Ethnic Background respectively. Eighty-four (94.4%) of the participants identified themselves as Heterosexual, with the remaining 5 (5.6%) participants identifying themselves as Bisexual. With regards to relationship status, 5 participants (5.6%) reported themselves to be Married, 23 (25.6%) as With a Partner and Cohabiting, 18 (20.0%) as With a Partner but Not Cohabiting, 41 (45.6%) as Single and 2 (2.2%) as Other.

Measures

Demographic Questionnaire. Participants were asked to complete a demographic questionnaire comprising questions regarding gender, age, ethnic background, sexual orientation, relationship status, and length of relationship if applicable (in years and months).

Adult Attachment. Participants' attachment orientation was measured using the Experiences in Close Relationships – Revised scale (Fraley et al., 2000). Cronbach's alphas for attachment anxiety and avoidance were .89 and .93 respectively.

Self-Esteem. Self-esteem was measured using the Rosenberg Self-Esteem Scale (1965; Cronbach's alpha = .88).

Naturalistic Social Comparisons. In order to assess participants' naturalistic social comparisons, an event-contingent self-recording procedure (Wheeler & Reis, 1991) was employed. This methodological approach has been used in numerous social comparisons studies (e.g., Bogart et al., 2004; Giordano et al., 2000; Locke, 2003, 2005, 2007; Locke & Nekich, 2000; Olson & Evans, 1999; Wheeler & Miyake, 1992; Wood et al., 2000). Consistent with these studies' previous methodologies, in the present study participants were required to complete a Social Comparison Record (similar in structure and content to that which was employed by Wheeler and Miyake (1992)) each time they noticed themselves making a comparison over the course of 1 week.

The first 4 items of the Social Comparison Record were in multiple-choice format, with the latter 3 in Likert-type format. The first item required participants to specify the type of social contact for the comparison with response options being social interaction, visual (no contact), telephone/email conversation, and daythought (specifically, that the participant merely thought about the comparison other).

The second item required participants to specify what characteristic was compared. Options included Academic/Work matter, Personality, Abilities (other than academic/work and social skills), Lifestyle (not related to wealth), Physical Appearance, Wealth (money and other things), Relationship, Opinion, and Other, with the latter option requiring specification on the participant's part. Participants were provided with full instructions for each of the above options with scenarios provided. For example, 'Abilities' was described as including aspects such as creative (music, art) or sporting (football, horse riding) abilities, while 'Lifestyle' included aspects such as frequency and nature of social engagements or the extent to which they lead a healthy lifestyle (smoking, drinking, eating). Participants were advised that on occasion they may feel as though a comparison could fall under more than one category and in these instances they should make a judgment on which single category best represented what they had compared.

The third item concerned who the comparison target was. The response options here were Romantic Partner, Close Friend, Acquaintance, Imaginary Person, Ordinary

Friend, Stranger, Oneself, Family Member, Famous Person, and Other, with the latter option again requesting the participants specify. Similar to the second item, although instructions were given for each of the possible response options, for those that may have been ambiguous in their meaning, participants were provided with examples to aid understanding, such as options ‘Imaginary Person’ and ‘Oneself’. For the former it was specified that this included hypothetical others that participants might find themselves making comparisons against, for example, to general others of their age, gender, or occupation (“the typical University student” or “women my age”). The latter response option of ‘Oneself’ was specified as including comparisons made against the self, such as comparisons to previous performances at University or a previous weight.

The final multiple choice item was designed to identify whether the comparison was intentional (that is, the comparison was made specifically to find out information about the self) or unintentional (such that a comparison was made in reaction to seeing or hearing information of another without conscious deliberation on the participant’s part).

The fifth item aimed to assess the perceived similarity between the participant and their comparison target and was designed to assess comparison direction (that is, whether upward or downward). The response was structured in a Likert-type format ranging from -3 (Inferior/Poor/Undesirable) to +3 (Superior/Better/Desirable), with 0, the middle point, representing equal positioning. This item was phrased to focus on the position of the target relative to that of the participant, such that if a comparison other was perceived to be much worse on a particular attribute, the participant would record a -3 rating, and if perceived to be much better, a +3 rating.

The final two sections were designed to assess participants’ mood both before making a comparison and afterwards. Mood items utilised by Wood et al. (2000) were used for the current study to measure both pre- and post-comparison mood states. This consisted of 7 pairs of mood adjectives (for example, sad-happy, discouraged-encouraged, rejected-accepted) in which participants were required to indicate their mood on a scale of 1 to 7, with 1 representing the most negative mood end of the scale (e.g. 1 = sad) and 7 representing the most positive end of the scale (e.g. 7 = Happy); 4 in each of the 7 mood adjective scales represented neutral mood.

Participants were lastly reminded of the anonymous nature of their data (that is, each participant had been randomly assigned an ID number that would only enable the researchers to link diary records to initial questionnaires and not identify them

personally) and therefore were asked to be as accurate in their reporting as possible. Furthermore, participants were advised that during times when a comparison had been made but they were unable to complete a diary record that they try to complete the record at their earliest convenience to ensure the information they provided was as representative of the comparison experience as possible.

Control Measure. A control measure to assess participants' perceptions of the accuracy of their social comparison records was included in the current study (as done previously by Wheeler and Miyake (1991)). In addition to questions on perceived accuracy (e.g., "To what extent do you feel this study made you more sensitive to comparisons so that you changed the number of comparisons you usually make?") and difficulty (e.g., "How much did keeping the comparison record interfere with your daily life?"), items also focused on factors that may have contributed to any difficulties and inaccuracies experienced (e.g., comparisons being too subtle to be noticed, feeling an obligation to make comparisons, feeling hesitant in reporting comparisons due to guilt or embarrassment, and not noticing or forgetting comparisons had been made).

Procedure

The current study was carried out in the Psychology Laboratory at the Heriot-Watt University campus. Students within the University were informed of a "Social Comparison Study" via e-mail advertising that briefly outlined the details of the study and provided a contact address should they be interested in taking part. Students who responded as being interested in participating were invited to come to the Psychology Laboratory at pre-arranged specified times (to ensure that no more than 4 participants were in the Lab at a time so that each individual would have enough space for privacy in answering questionnaires). Students were then fully informed of the aims of the study and what participation would entail: they would be asked to complete an initial set of questionnaires and then, commencing immediately upon the set's completion, for the time period of 1 week they would be asked to complete a social comparison record each time they noticed themselves making a comparison. Full instructions as outlined in the above Measures section were provided for how to complete the social comparison records and any questions participants had at that time were answered. Dated consent forms asked participants to leave an e-mail contact address; this was so that participants could be contacted 1 week later to remind them that their week-long participation was completed and that they were to stop recording their comparisons and could arrange to return their records. It was re-iterated here that their e-mail addresses were kept separate

from all of their completed measures to ensure their anonymity be retained. Participants were provided with 20 social comparison records and were informed that if more sheets were needed they could contact the primary researcher.

Once the completed social comparison records were returned, participants were invited to fill in the control measure (although were reassured this was not required of them and was therefore completely voluntary), bringing an end to their participation in the current study.

Analytic Strategy

Whereas in Study 1 a *linear change* model was adopted, the current study utilised a *no change* or *unconditional means* model in which, rather than describing *change* in outcome variables over time, outcome *variation* is the focus (Singer & Willett, 2003). In general terms, within a social comparison context, the level 1 no change submodel equation should read as:

$$Y_{ij} = \beta_{0i} + \epsilon_{ij}$$

where Y_{ij} represents the variable of interest for participant j 's i th comparison, β_{0i} represents the mean across all comparisons (i.e. person-specific mean), and ϵ_{ij} represents random error. For each parameter in the level 1 submodel, there is a level 2 submodel; in the above example there is only 1 parameter, the mean (β_{0i}), and so its accompanying level 2 submodel equation would read as:

$$\beta_{0i} = \gamma_{00} + \zeta_{0i}$$

where γ_{00} represents the variable of interest's mean across all participants (i.e. grand mean) and ζ_{0i} represents random error. As identified earlier, in the current study, the level 1 submodels concerned individuals' social comparisons while the level 2 submodels comprised self-reported attachment orientations. More specifically, MLM was utilised to predict level 1 pre- and post-social comparison mood on the basis of level 2 adult attachment (Hypotheses 1a, 1b, 2a, 2b and Research Questions 1 and 1) and to predict changes in mood in response to social comparison information (Hypotheses 3a, 3b, and 3c).

For hypothesis 1a, the level 1 submodel equation was:

$$(1a) P-M_i = \beta_{0i}P-M + \epsilon_i$$

where P-M_i represents the pre-comparison mood for participant i th, $\beta_{0i}P-M$ represents the beta co-efficient for mean pre-comparison mood score across all comparisons, and ϵ_i represents random error.

The accompanying level 2 submodel for the above 1a equation was:

$$(1a) \beta_{0i} = \gamma_{00} + \gamma_{01}SE + \gamma_{02}Anx + \gamma_{03}Avd + \gamma_{04}Anx*Avd + \zeta_{0i}$$

where γ_{00} represents the mean pre-comparison mood score across participants, $\gamma_{01}SE$ represents the effect of self-esteem on pre-comparison mood, $\gamma_{02}Anx$, $\gamma_{03}Avd$, and $\gamma_{04}Anx*Avd$ represent the effects of anxiety, avoidance and their interaction, and ζ_{0i} represents random error.

For hypothesis 1b, the level 1 submodel equation was:

$$(1b) Po-M_i = \beta_{1i}Po-M + \varepsilon_i$$

where $Po-M_i$ represents post-comparison mood for the i th participant, $\beta_{1i}Po-M$ represents the co-efficient for mean post-comparison mood, and represents ε_i random error.

The accompanying level 2 submodel equation was the same as that used for Hypothesis 1a:

$$(1b) \beta_{0i} = \gamma_{10} + \gamma_{11}SE + \gamma_{12}Anx + \gamma_{13}Avd + \gamma_{14}Anx*Avd + \zeta_{1i}$$

where γ_{10} represents the mean pre-comparison mood score across participants, $\gamma_{11}SE$ represents the effect of self-esteem on pre-comparison mood, $\gamma_{12}Anx$, $\gamma_{13}Avd$, and $\gamma_{14}Anx*Avd$ represent the effects of anxiety, avoidance and their interaction, and ζ_{1i} represents random error.

For hypothesis 2a, the level 1 submodel equation was:

$$(2a) P-M_i = \beta_{2i}P-M + \varepsilon_i$$

where $P-M_i$ represents the pre-comparison mood for participant i th, $\beta_{2i}P-M$ represents the beta co-efficient for mean pre-comparison mood score across all comparisons, and ε_i represents random error.

The accompanying level 2 submodel equation was:

$$(2a) \beta_{2i} = \gamma_{20} + \gamma_{21}SE + \gamma_{22}UC + \gamma_{23}Anx + \gamma_{24}Avd + \gamma_{25}Anx*Avd + \gamma_{26}Anx*UC + \gamma_{27}Avd*UC + \gamma_{28}Anx*Avd*UC + \zeta_{2i}$$

where γ_{20} represents the mean pre-comparison mood score across participants, gamma coefficient $\gamma_{21}SE$ represents the effect of self-esteem on participants' mean pre-comparison mood score, co-efficients γ_{22} , γ_{23} , γ_{24} represent the effect of upward comparison, anxiety and avoidance respectively, γ_{25} , γ_{26} , and γ_{27} represent the two-way interactions, γ_{28} represents the final three-way interaction, and ζ_{2i} represents random error. Consistent with previous research (e.g., Olson & Evans, 1999), upward and

downward comparisons were dummy-coded; for upward comparison, +1, +2, and +3 scores were dummy-coded as 1 with all other scores coded as 0, while for downward comparison, -1, -2, and -3 scores were dummy-coded as 1 with the remaining scores coded as 0.

The level 1 equation for Hypothesis 2b was:

$$(2b) \text{Po-M}_i = \beta_{3i}\text{Po-M} + \varepsilon_i$$

where Po-M_i represents post-comparison mood for the *i*th participant, $\beta_{3i}\text{Po-M}$ represents the co-efficient for mean post-comparison mood, and represents ε_i random error.

The accompanying level 2 submodel equation was the same as that used for Hypothesis 1c:

$$(2b) \beta_{3i} = \gamma_{30} + \gamma_{31}\text{SE} + \gamma_{32}\text{UC} + \gamma_{33}\text{Anx} + \gamma_{34}\text{Avd} + \gamma_{35}\text{Anx}*\text{Avd} + \gamma_{36}\text{Anx}*\text{UC} + \gamma_{37}\text{Avd}*\text{UC} + \gamma_{38}\text{Anx}*\text{Avd}*\text{UC} + \zeta_{3i}$$

where γ_{30} represents the mean pre-comparison mood score across participants, gamma coefficient $\gamma_{31}\text{SE}$ represents the effect of self-esteem on participants' mean pre-comparison mood score, co-efficients γ_{32} , γ_{33} , γ_{34} represent the effect of upward comparison, anxiety and avoidance respectively, γ_{35} , γ_{36} , and γ_{37} represent the two-way interactions, γ_{38} represents the final three-way interaction, and ζ_{3i} represents random error.

The level 1 equation for Research Question 1 was:

$$(RQ1) \text{P-M}_i = \beta_{4i}\text{P-M} + \varepsilon_i$$

where P-M_i represents the pre-comparison mood for participant *i*th, $\beta_{4i}\text{P-M}$ represents the beta co-efficient for mean pre-comparison mood score across all comparisons, and ε_i represents random error.

The accompanying level 2 submodel equation was:

$$(RQ1) \beta_{4i} = \gamma_{30} + \gamma_{31}\text{SE} + \gamma_{32}\text{DC} + \gamma_{33}\text{Anx} + \gamma_{34}\text{Avd} + \gamma_{35}\text{Anx}*\text{Avd} + \gamma_{36}\text{Anx}*\text{DC} + \gamma_{37}\text{Avd}*\text{DC} + \gamma_{38}\text{Anx}*\text{Avd}*\text{DC} + \zeta_{3i}$$

where γ_{30} represents the mean pre-comparison mood score across participants, gamma coefficient $\gamma_{31}\text{SE}$ represents the effect of self-esteem on participants' mean pre-comparison mood score, co-efficients γ_{32} , γ_{33} , γ_{34} represent the effect of downward comparison, anxiety and avoidance respectively, γ_{35} , γ_{36} , and γ_{37} represent the two-way

interactions, γ_{38} represents the final three-way interaction, and ζ_{3i} represents random error.

The level 1 submodel equation for Research Question 2 was:

$$(RQ2) Po-M_i = \beta_{4i}Po-M + \varepsilon_i$$

where $Po-M_i$ represents post-comparison mood for the i th participant, $\beta_{4i}Po-M$ represents the co-efficient for mean post-comparison mood, and represents ε_i random error.

Its accompanying level 2 submodel equation was:

$$(RQ2) \beta_{3i} = \gamma_{30} + \gamma_{31}SE + \gamma_{32}DC + \gamma_{33}Anx + \gamma_{34}Avd + \gamma_{35}Anx*Avd + \gamma_{36}Anx*DC + \gamma_{37}Avd*DC + \gamma_{38}Anx*Avd*DC + \zeta_{3i}$$

where γ_{30} represents the mean post-comparison mood score across participants, gamma coefficient $\gamma_{31}SE$ represents the effect of self-esteem on participants' mean pre-comparison mood score, co-efficients γ_{32} , γ_{33} , γ_{34} represent the effect of downward comparison, anxiety and avoidance respectively, γ_{35} , γ_{36} , and γ_{37} represent the two-way interactions, γ_{38} represents the final three-way interaction, and ζ_{3i} represents random error.

Interpreted in their contexts, the level 2 submodel equations test for whether attachment dimensions anxiety, avoidance, their interaction, upward comparison, downward comparison, their interactions with attachment dimensions, and the final three-way interactions predict differences in pre- and post-comparison mood while controlling for self-esteem. The inclusion of self-esteem in the equation model allows for the controlling of its influence on pre-social comparison mood, that is, to carry a statistical check that it is indeed attachment influencing pre-comparison mood and not the co-occurring levels of self-esteem associated with it. Furthermore, although hypotheses focused on attachment anxiety only (with avoidance not anticipated to significantly predict differences in pre-comparison mood), the analyses were carried out on both of the attachment dimensions and their interaction to confirm these expectations.

For hypothesis 3a, in which attachment predicts differences in changes in mood, the level 1 submodel equation was:

$$(3a) MC_i = \beta_{4i}MMC + \beta_{4i}P-M + \varepsilon_i$$

where MC_i represents mood change for the i th participant, $\beta_{4i}MMC$ is the mean mood change, $\beta_{4i}P-M$ represents pre-comparison mood, and ε_i represents random error. As in the analyses in Study 1C examining change scores, residualised mood change scores

were utilised in the current analyses (specifically, both pre-comparison mood and mood change were entered into the level 1 submodel).

The level 2 submodel equations for the above level 1 mood change equation were:

$$(3a) \beta_{4i}MMC = \gamma_{40} + \gamma_{41}Self-Esteem + \gamma_{42}Anxiety + \gamma_{43}Avoidance + \gamma_{44}Anxiety*Avoidance + \zeta_{4i}$$

$$\beta_{4i}P-M = \gamma_{50} + \gamma_{51}Self-Esteem + \gamma_{52}Anxiety + \gamma_{53}Avoidance + \gamma_{54}Anxiety*Avoidance + \zeta_{5i}$$

in which γ_{40} and γ_{50} represent mean changes in mood, gamma co-efficients γ_{41} and γ_{51} represent the effect of self-esteem, co-efficients γ_{42} , γ_{43} , γ_{44} and γ_{52} , γ_{53} , γ_{54} represent the effect of attachment orientation (specifically, anxiety, avoidance, and their interaction) on participants' mean mood change, and ζ_{4i} and ζ_{5i} represents random error.

Lastly, for hypotheses 3b and 3c in which attachment orientation predicts differences in changes in mood after either upward (4b) or downward (4c) comparison, the level 1 submodel equations read as:

$$(3b) MC_i = \beta_{5i}MMC + \beta_{6i}P-M + \epsilon_i$$

$$(3c) MC_i = \beta_{7i}MMC + \beta_{8i}P-M + \epsilon_i$$

where MC_i represents mood change for the i th participant, $\beta_{5i}MMC$ and $\beta_{7i}MMC$ represent mean changes in mood, co-efficients $\beta_{6i}P-M$ and $\beta_{8i}P-M$ represent pre-comparison mood, and ϵ_i represents random error.

The accompanying level 2 submodel equations read as:

$$(3b) \beta_{5i}MMC = \gamma_{60} + \gamma_{61}SE + \gamma_{62}UC + \gamma_{63}Anx + \gamma_{64}Avd + \gamma_{65}Anx*Avd + \gamma_{66}Anx*UC + \gamma_{67}Avd*UC + \gamma_{68}Anx*Avd*UC + \zeta_{6i}$$

$$\beta_{6i}P-M = \gamma_{70} + \gamma_{71}SE + \gamma_{72}UC + \gamma_{73}Anx + \gamma_{74}Avd + \gamma_{75}Anx*Avd + \gamma_{76}Anx*UC + \gamma_{77}Avd*UC + \gamma_{78}Anx*Avd*UC + \zeta_{7i}$$

$$(3c) \beta_{7i}MMC = \gamma_{80} + \gamma_{81}SE + \gamma_{82}DC + \gamma_{83}Anx + \gamma_{84}Avd + \gamma_{85}Anx*Avd + \gamma_{86}Anx*DC + \gamma_{87}Avd*DC + \gamma_{88}Anx*Avd*DC + \zeta_{8i}$$

$$\beta_{8i}P-M = \gamma_{90} + \gamma_{91}SE + \gamma_{92}DC + \gamma_{93}Anx + \gamma_{94}Avd + \gamma_{95}Anx*Avd + \gamma_{96}Anx*DC + \gamma_{97}Avd*DC + \gamma_{98}Anx*Avd*DC + \zeta_{9i}$$

where γ_{60} , γ_{70} , γ_{80} , and γ_{90} represent mean change in mood scores, γ_{61} through to γ_{91} represent the effect of self-esteem, γ_{62} and γ_{72} represent the effect of upward comparison, γ_{82} and γ_{92} represent the effect of downward comparison, gamma co-efficients γ_{63} through to γ_{94} represent the effects of anxiety and avoidance, co-efficients

γ_{65} through to γ_{97} represent the two-way interactions between anxiety, avoidance and upward/downward comparison, γ_{68} through to γ_{98} represent the final three-way interactions, and finally ζ_{6i} through to ζ_{9i} represent random error.

Upward and downward comparisons were dummy-coded as in the level 1 submodel equations for Hypothesis 1c, and for each of the level 2 submodels, self-esteem was added as a control variable.

Results

Descriptive statistics

The means and standard deviations for attachment anxiety, avoidance, and self-esteem are presented in Table 29.

Table 29. Level 2 Descriptive statistics

	Mean	Standard Deviation
Attachment anxiety	3.33	1.01
Attachment avoidance	3.07	1.14
Self-Esteem	19.27	5.41

Regarding the social comparison records themselves, there were a total of 649 comparisons completed by participants. Two hundred and thirty-six comparisons were made when participants were socially interacting with the comparison target, 143 comparisons were visual-based (that is, no social contact was made but the comparison target was seen), 65 comparisons were made either through telephone or online conversation, and 204 comparisons were made by participants thinking about a comparison target.

The most commonly compared characteristics were physical appearance (140 comparisons) followed by academic matters (103 comparisons), personality (93 comparisons), lifestyle (80 comparisons), abilities (72 comparisons), and romantic relationships (55 comparisons). The smallest numbers of comparisons were categorised under ‘Other’ (18 comparisons in total, with participant specification examples including age, job, and child discipline), opinions (20 comparisons), wealth (32 comparisons) and social skills (36 comparisons).

Regarding who participants compared with, the most commonly reported comparison targets were acquaintances (125) and close friends (123). Strangers (97) and ordinary friends (82) were also common comparison targets. Sixty-seven comparisons

were recorded as having been made against participants themselves, suggesting that reflecting on past experiences or performances by the self to be important in current self-evaluations. The fewest comparisons were made against ‘Others’ (25, with examples including lecturer, colleague, and presentation group), imaginary others (31), family members (32), famous people (34) and romantic partners (35).

Three-hundred and eighty-nine comparisons were reported as involuntary, with 256 comparisons reported as intentional (that is, specifically with the intention to find out information about the self).

The scale for degree of comparison target similarity ranged from -3 (the most undesirable or inferior) to +3 (the most desirable or superior). Of the total 649 comparisons made, 39 comparison targets were categorised as -3, 103 targets as -2, and 90 targets as -1, totalling 232 downward comparisons. One-hundred and fourteen comparison targets were categorised as 0, representing lateral comparisons. Lastly, 104 targets were categorised as +1, 130 as +2, and 69 as +3, totalling 303 upward comparisons, therefore suggesting a greater overall tendency for the current sample to compare upwards to perceived better-off others than downwards to perceived worse-off others.

Lastly, the mean pre-comparison mood score was 4.42 (SD = .86) and the mean post-comparison mood score was 4.26 (SD = 1.03). A paired samples t-test was carried out to examine whether this difference in pre- and post-comparison mood scores was significant. The results of this analysis revealed this difference to indeed be significant ($t = 3.99$, $p = <.001$), suggesting that regardless of the specifics of comparisons being made, or dispositional (i.e. attachment) variables, engaging in comparisons generally saw a slight decrease in individuals’ moods.

Control Measure.

Table 30 presents the means and standard deviations from the control measure testing for participants’ perceived accuracy and difficulty in recording their social comparisons. The means are comparable to those reported by Wheeler and Miyake (1991), suggesting that participants generally found their records to be fairly accurate and difficulty to be fairly low.

Table 30. Means and Standard Deviations for Control Measure Items

	Mean	Standard Deviation
Difficulty in recording comparisons	3.56	1.70
Comparison record inaccuracy	3.90	1.58
Interference of records in daily life	2.29	1.59
Increased sensitivity increasing number of comparisons made	4.13	1.58
Forgetting	3.87	1.78
Difficulty in being attentive	3.70	1.60
Lack of clarity in instructions	1.75	1.11
Felt an obligation to make comparisons	3.05	1.74
Hesitate to report comparisons due to feelings of guilt	2.22	1.55
Comparison too subtle to be noticed	4.05	1.68

Adult Attachment and Pre- and Post-Comparison Mood.

Hypothesis 1a put forward that irrespective of comparison direction, lower attachment anxiety would be predictive of lower pre-comparison mood. Multi-level analysis was carried out, with anxiety, avoidance, and their interaction entered into the regression equation; self-esteem was also entered into the equation to control for its effects. The results are presented in Table 31.

Table 31. Anxiety and Avoidance as Predictors of Pre-Comparison Mood (Controlling for Self-Esteem)

Model	Coefficient	Standard Error	t
Pre-comparison mood			
Intercept	3.65	.33	11.16***
Self-esteem	.04	.02	2.42*
Anxiety	.18	.09	1.98*
Avoidance	-.02	.07	-.26
Anxiety*Avoidance	-.01	.07	-.21

* $p < .05$

*** $p < .001$

As can be seen in Table 31, anxiety was revealed to be a significant predictor of pre-comparison mood (with avoidance and its interaction with anxiety revealed not to be significant predictors). That anxiety was significant while controlling for self-esteem suggests this result to indicate attachment anxiety to be predictive of individuals' mood before making comparisons beyond the co-occurring perceptions of self-worth. Figure 25 provides a visual representation of the above results.

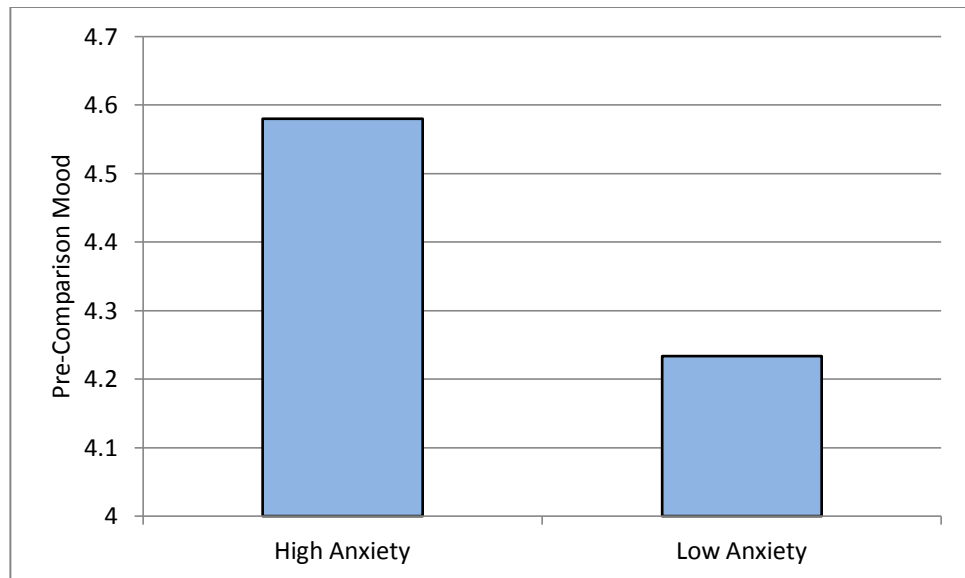


Figure 25. Attachment Anxiety as Predictor of Pre-Comparison Mood (Controlling for Self-Esteem).

The above figure suggests that individuals low in attachment anxiety reported a less positive mood before engaging in social comparison than individuals high in attachment anxiety. This is consistent with expectations and so Hypothesis 1a was supported.

Hypothesis 1b put forward that, irrespective of comparison direction, greater attachment anxiety would be predictive of lower post-comparison mood. As for Hypothesis 1a, anxiety, avoidance and their two-way interaction were entered into the regression equation along with self-esteem. The results identified that none of anxiety, avoidance, nor their interaction were significant predictors while self-esteem was ($t = 2.67, p < .01$). The regression equation was carried out a second time without controlling for self-esteem to identify whether self-esteem's removal saw anxiety be a significant predictor; the results confirmed this ($t = -2.18, p < .05$); Figure 26 presents the results.

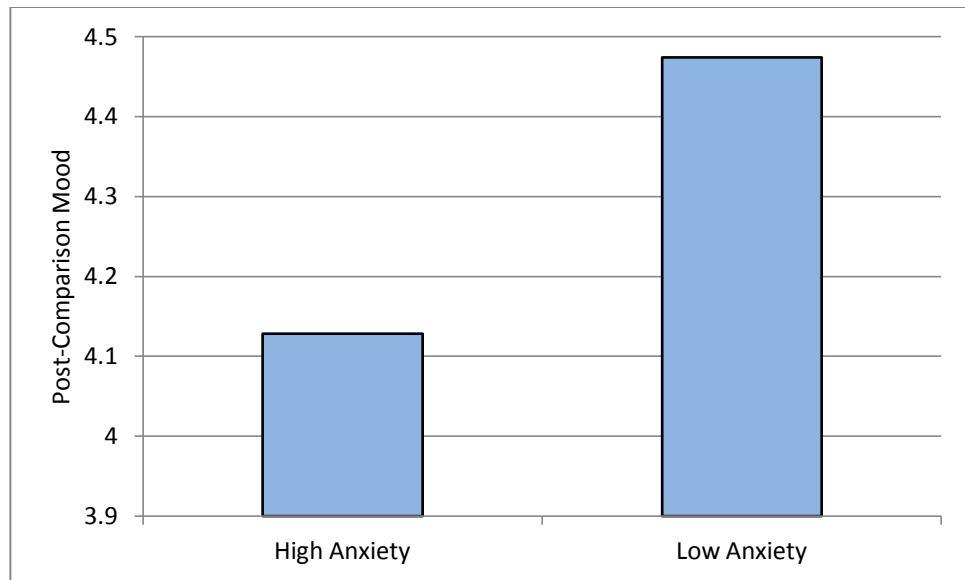


Figure 26. Attachment Anxiety as Predictor of Post-Comparison Mood

The above results suggest that individuals higher in attachment anxiety report decreased post-comparison mood compared to their low-anxiety counterparts, which is in keeping with expectations and therefore supports Hypothesis 1b. However, with the inclusion of self-esteem causing this result to become non-significant, this relationship is fully mediated by self-esteem, suggesting that it is high-anxiety individuals' decreased self-esteem and low-anxiety individuals' increased self-esteem only that produces their different post-comparison mood levels.

The next hypothesis (2a) put forward that before making an upward comparison, decreased attachment anxiety would be predictive of decreased pre-comparison mood. Anxiety, avoidance and upward comparison direction were entered into the regression equation as well as their two-way interactions and final three-way interaction. As previously, self-esteem was additionally entered as a control variable. Table 32 presents the results of this analysis.

Table 32. Attachment Anxiety, Avoidance, and Upward Comparison as Predictors of Pre-Comparison Mood

Model	Coefficient	Standard Error	t
Pre-comparison mood			
Intercept	3.66	.33	11.13***
Self-Esteem	.04	.02	2.52*
Anxiety	.17	.09	1.85 ^a
Avoidance	.02	.07	.34
Upward Comparison	-.09	.06	-1.39
Anxiety*Avoidance	-.07	.07	-.95
Upward*Anxiety	.02	.06	.26
Upward*Avoidance	-.11	.06	-1.77 ^a
Upward*Anxiety*Avoidance	.14	.06	2.26*

^a p = marginal

* p < .05

*** p < .001

As shown in Table 32, even when controlling for the effects of self-esteem, the three-way interaction between upward comparison, anxiety, and avoidance was revealed to be a significant predictor of individuals' pre-comparison mood. Figure 27 presents the results visually.

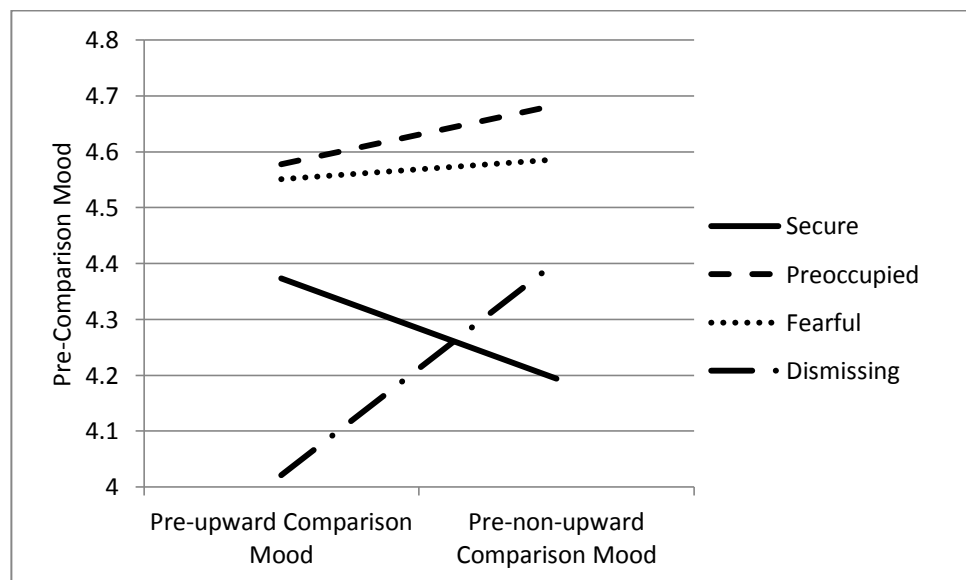


Figure 27. Attachment Anxiety, Avoidance, and Upward Comparison as Predictors of Pre-Comparison Mood.

The results appear to indicate that, before making an upward comparison (that is, comparison to a perceived better-off other), individuals low in anxiety and high in

avoidance (fitting the dismissing-avoidant attachment classification) report the lowest mood. Individuals fitting preoccupied (high anxiety/low avoidance) and fearful-avoidant (high anxiety and avoidance) attachment classifications report similarly increased mood before making an upward comparison, while individuals fitting a secure (low anxiety and avoidance) attachment classification report mood higher than dismissing-types but lower than their high-anxiety counterparts. The results therefore suggest when making less favourable upward comparisons to perceived better-off others, high-anxiety individuals' mood is more positive.

Included also in Figure 28 is pre-non-upward comparison mood (that is, lateral and downward comparisons). When considered in conjunction with the pre-upward comparison findings, the results suggest dismissing-avoidant-type individuals' pre-non-upward comparison mood to be higher than when about to compare upward, with a similar pattern emerging for preoccupied- and fearful-avoidant-type individuals. Secure-type individuals however report differently, with lateral and downward comparisons evidencing a lower mood than upward comparisons.

Hypothesis 2a predicted differences on the basis of attachment anxiety; that high-anxiety individuals (preoccupied and fearful) reported higher pre-upward-comparison moods than their low anxiety counterparts is consistent with expectations and therefore Hypothesis 2a was supported.

Hypothesis 2b put forward that, after upward comparison, increased attachment anxiety would predict lower post-comparison mood. As in the above analyses, attachment anxiety, avoidance, and upward comparison, as well as their two-way and three-way interactions were entered into the regression equation, with self-esteem added as a control variable and post-comparison mood entered as the dependent variable. In this instance however, none of the variables included in the regression equation (with exception of self-esteem) was identified as a significant predictor of post-upward comparison mood. Hypothesis 2b was therefore not supported.

Research Question 1 argued for the notion that before downward comparison, attachment anxiety would predict pre-comparison mood. The level 2 submodel equation included the same variables as listed for the Hypothesis 2a equation but with the single difference of including downward comparison rather than upward. The results of the analyses indicated that none of the two-way interactions between attachment dimensions and downward comparison were significant predictors of pre-comparison mood. Research Question 1 was therefore also not supported.

The final research question to test examining post-comparison mood (2) put forward that, after downward comparison, attachment anxiety would predict post-comparison mood. As in the above analyses, self-esteem was included in the regression equation along with anxiety, avoidance, downward comparison, their two-way interactions, and the final three-way interaction. Table 33 presents the results.

Table 33. Attachment Anxiety, Avoidance, and Downward Comparison as Predictors of Post-Comparison Mood

Model	Coefficient	Standard Error	<i>t</i>
Post-comparison mood			
Intercept	3.25	.34	9.56***
Self-Esteem	.05	.02	2.79**
Anxiety	-.06	.10	-.63
Avoidance	-.02	.07	-.26
Downward Comparison	.41	.08	4.87***
Anxiety*Avoidance	-.11	.07	-1.43
Downward*Anxiety	.15	.08	1.87 ^a
Downward*Avoidance	-.01	.08	-.11
Downward*Anxiety*Avoidance	.02	.08	.30

^a $p < .06$

** $p < .01$

*** $p < .001$

The results of the multi-level model regressions revealed that the interaction between attachment anxiety and downward comparison was closely approaching significance. To identify the nature of this trend, visual presentation was utilised (see Figure 28 below).

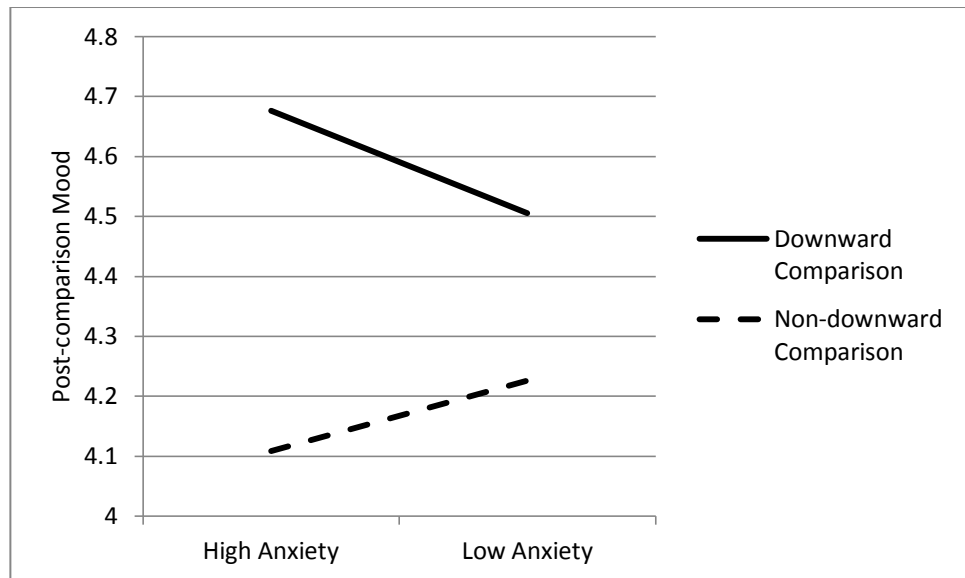


Figure 28. Attachment Anxiety and Downward/Non-downward Comparison as Predictors of Post-comparison Mood

The above slopes appear to suggest that after having engaged in downward comparison to perceived worse-off others, individuals high in attachment anxiety report increased mood compared to their low-anxiety counterparts. However these slopes must be interpreted within the context that the regression result did not quite reach the significance threshold.

In examining the differences in post-comparison mood between the two high/low anxiety groups after engaging in non-downward (i.e. lateral and upward) comparisons, Figure 28 shows that high-anxiety individuals report a lower post-comparison mood than low-anxiety individuals, a pattern that differs to the slopes representing mood after having engaged in downward comparison.

Adult Attachment and Mood Change.

Hypothesis 3a put forward that, irrespective of comparison direction, greater attachment anxiety would predict a greater decrease in mood. Self-esteem and pre-comparison mood were added as control variables, followed by anxiety, avoidance and their interaction. Multi-level analyses revealed that, while controlling for self-esteem, attachment anxiety was not a significant predictor of mood change ($t = 2.04, p = .16$). However, as with analyses testing Hypothesis 1b, a second regression analysis was carried out removing self-esteem as a control variable; this revealed anxiety to be a significant predictor ($t = 9.93, p < .05$). Figure 29 visually presents these findings.

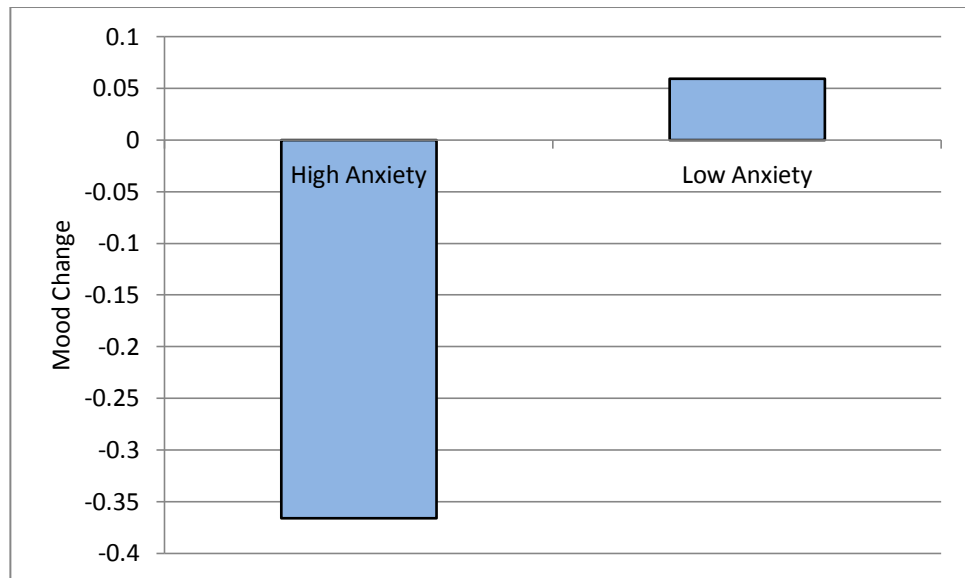


Figure 29. Attachment Anxiety as Predictor of Mood Change

Figure 29 suggests that, regardless of the type of comparison made (that is, either upward to a perceived better-off other or downward to a perceived worse-off other), high-anxiety individuals report a decrease in mood, while low-anxiety individuals report a slight increase. However, as entering self-esteem into the regression equation causes anxiety to become a non-significant predictor, this finding appears to be fully mediated by individuals' co-occurring perceptions of self-worth. Hypothesis 4a was therefore partially supported; it was correctly anticipated that greater anxiety would predict a greater decrease in change of mood however it had not been anticipated that this pattern would be fully accounted for by feelings of self-esteem.

Hypothesis 3b put forward that after upward comparison, greater attachment anxiety would predict a greater decrease in mood. As done in previous analyses, self-esteem and pre-comparison mood were entered into the level 2 regression equation, followed by anxiety, avoidance, upward comparison, their two-way interactions, and the final three-way interaction. Analyses revealed that neither of the anxiety ($t = -.43, p = .67$) nor avoidance ($t = -.28, p = .78$) interactions with upward comparison were significant predictors of mood change and this was similarly the case with the three-way interaction ($t = .32, p = .75$). The removal of self-esteem from the level 2 submodel equation did not see the anxiety-upward comparison interaction become significant, therefore Hypothesis 4b was not supported.

Hypothesis 3c put forward that after downward comparison, greater attachment anxiety would predict a lesser decrease in mood. As in previous regression equations

here, self-esteem and pre-comparison mood were entered as control variables followed by anxiety, avoidance, downward comparison, their two-way interactions and the final three-way interaction. Table 34 presents the results.

Table 34. Anxiety, Avoidance, and Downward Comparison as Predictors of Mood Change

Model	Coefficient	Standard Error	t
Mood Change			
Intercept	1.60	.32	4.99***
Self-Esteem	.03	.01	2.11*
Pre-Comparison Mood	-.55	.04	-12.34***
Anxiety	-.14	.08	-1.78 ^a
Avoidance	-.00	.06	-.03
Downward	.40	.08	5.02***
Anxiety*Avoidance	-.10	.06	-1.59
Anxiety*Downward	.15	.07	1.98*
Avoidance*Downward	-.04	.08	-.54
Anxiety*Avoidance*Downward	.02	.07	.27

^a*p* = marginal

**p* < .05

****p* < .001

As indicated in Table 34, while the three-way interaction between anxiety, avoidance, and downward comparison was not a significant predictor of mood change, the two-way interaction between anxiety and downward comparison was. This result is presented in Figure 30.

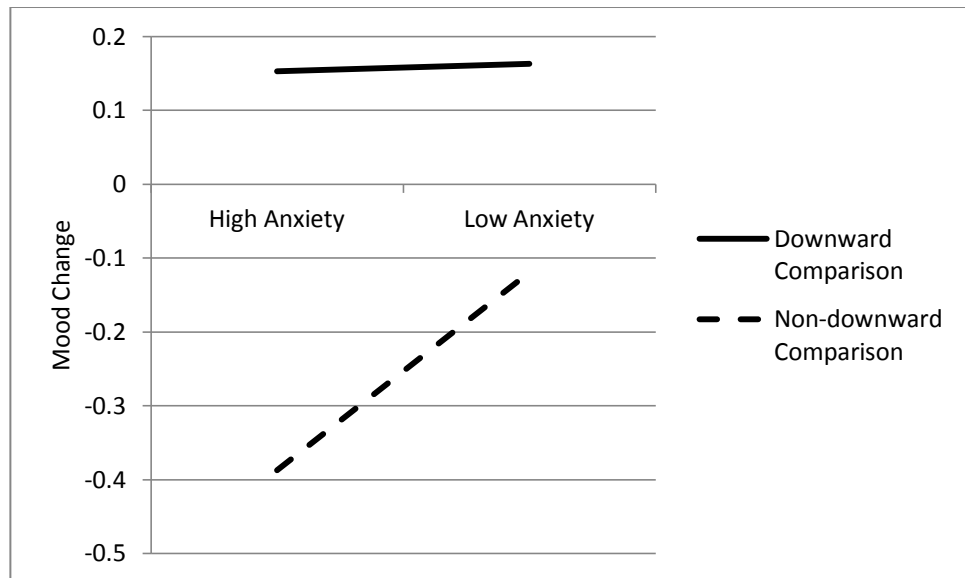


Figure 30. Anxiety and Downward Comparison as Predictors of Mood Change

The above figure appears to suggest that after engaging in a downward comparison, individuals low in anxiety report a slightly greater change in mood than high-anxiety individuals do. However, this difference is indeed very slight. Upon looking at mood change differences in non-downward comparisons (that is, lateral and upward comparisons), a bigger difference between the high- and low-anxiety groups emerges: individuals high in attachment anxiety report a greater decrease in mood than low-anxiety individuals upon comparing with others perceived as either better than or similar to themselves.

Discussion

The purpose of the above two studies was to address the gap in the literature regarding associations between social comparison habits and adult attachment. While research has previously examined the issues of perceptions of self-other similarity (Gabriel et al., 2005; Mikulincer et al., 1998) and social standing in adolescence (Gilbert et al., 2007; Irons & Gilbert, 2005), none has examined directional and identification/contrast tendencies. Furthermore, although diary study methodologies have been utilised in a number of studies examining social comparisons (e.g., Bogart et al., 2004; Giordano, Wood, & Michaela, 2000; Locke, 2003, 2005, 2007; Locke & Nekich, 2000; Olson & Evans, 1999; Wheeler & Miyake, 1992; Wood et al., 2000), this method of data collection had not previously been applied to the examination of the attachment-based differences in social comparisons individuals make.

Study 2A

The findings of Study 2A identified that as attachment anxiety increases, tendency to engage in social comparison increases also, while as attachment avoidance increases, tendency to compare oneself with others decreases. As indicated earlier, there are several theoretical and empirical reasons to support why this finding should emerge, the first of which relates to one of the fundamental principles originally outlined by Festinger (1954) and that is desire to engage in social comparisons on the basis of feelings of uncertainty. Outside the framework of attachment, uncertainty in several areas has been found to be associated with greater tendency to engage in social comparisons, such as self-concept clarity (Butzer & Kuiper, 2005), emotional uncertainty (Gerard, 1963), uncertainty at work (Buunk et al., 1994), within romantic relationships (Buunk & VanYperen, 1991; Buunk et al., 1991) and of personal judgements and opinions (Weary et al., 1994). Within the framework of attachment, several studies have found evidence to indicate that differences in attachment-based thoughts and feelings predict differences in self-concept clarity and accuracy. For example, using the Adult Attachment Interview (AAI), Kobak and Sceery (1988) revealed findings suggesting an incongruence between self-reports and peer-reports among avoidant individuals regarding their social competence, while Dozier and Lee (1995) in their study examining self-other discrepancies within individuals experiencing psychopathological disorders found both avoidant- and ambivalent-type individuals to report inaccurate understanding of the self and their experiences. Berger (2001) additionally found self-perception inaccuracies in both preoccupied- and dismissing-type individuals in comparison to parent and peer reports. In studies using self-report adult attachment measures, Wu (2009) found both avoidance and anxiety to predict self-uncertainty and reduced self-concept clarity. Foster, Kernis, and Goldman (2007) meanwhile found reports of self-esteem to fluctuate and be less stable for high anxiety, suggesting a less stable perception of self (and therefore a reduced self-concept clarity and certainty) in high-anxiety individuals. Furthermore, Davila and Cobb (2004) in their discussion of the individual-difference model in accounting for and describing changes in feelings of attachment security put forward that attachment insecurity (that is, higher levels of anxiety and/or avoidance) may represent a lack of clarity in both self- and other-perceptions. They state that early negative experiences that often lead to the formation of an insecure attachment orientation (such as parental divorce (e.g., Nair & Murray, 2005) or psychopathology (e.g., Eiden, Edwards, & Leonard, 2002; Hammen & Brennan, 2001)) impede the development of clear and stable models of self and other. In

this sense then, attachment insecurity reflects a lack of self-concept clarity and certainty that is characteristic of attachment security.

As earlier discussed, in testing the structure and complexity of individuals' self-concepts within the framework of adult attachment directly, Mikulincer (1995) identified secure individuals' self-structure to comprise several self-schema that were highly differentiated but easily accessible. This differentiation between accessible self-aspects suggests such individuals to have a clear understanding of self in their various social contexts, that is, to have a clear self-certainty and -clarity. Anxious-ambivalent individuals, however, were revealed to have a self-concept structure that was characterised by fewer self-aspects that were poorly differentiated from one another. In this instance then, such individuals' self-clarity and -certainty would be lower than their secure counterparts with less clear definitions and understanding of the self and would account for the findings above of high anxiety as predictive of reduced self-certainty. Lastly, avoidant individuals' self-structure was found to consist of several highly differentiated self-aspects that were fragmented in structure, that is, self-aspects that are poorly integrated and therefore less well-connected. Suggesting such individuals to have poorer access to their various aspects of self, the structure identified by Mikulincer (1995) suggests that avoidant individuals should demonstrate a similar self-uncertainty to anxious-ambivalent/preoccupied-type individuals but as arising from a different cognitive source.

On the basis of the outlined differences in self-uncertainty, the finding of increased anxiety predicting an increased tendency to engage in social comparisons in the present study is theoretically and empirically consistent; with such individuals having greater feelings of self-uncertainty, the need and tendency to try to derive self-evaluative information provided through comparison with others should be greater. That greater attachment avoidance, however, was predictive of decreased social comparison orientation is perhaps counterintuitive to the above findings that high-avoidance individuals seem to be also characterised by cognitive structures indicating lesser self-certainty. However, salience of self-other models might account for why such individuals report a lesser tendency to engage in social comparisons and provides further support for why high-anxiety individuals were found to report a greater tendency. Stapel and Tesser's (2001) self-activation hypothesis states that because the goal of social comparison is information-gathering about the self, desire to engage in social comparison should be greater when self-related cognitions are activated and more salient

to the individual. For the highly-avoidant individual who is characterised by a deactivating strategy of inhibition of attachment working models of self and other (Cassidy & Kobak, 1988), self-related cognitions are defensively denied attention. This defensive suppression process mirrors the low activation put forward by Stapel and Tesser (2001) and may be a contributor to the observed findings of lower social comparison orientation. For the highly-anxious individual meanwhile, who is characterised by a hyperactivation of the attachment system in which models of self and other are chronically activated and therefore more salient to them, the greater cognisance of both self and other should encourage engagement in social comparisons; that greater anxiety predicted greater social comparison orientation is in support of this theoretical contention.

Further accountable for both of the anxiety and avoidance findings is the earlier-discussed interpersonal orientation put forward by Gibbons and Buunk (2006) when describing the typical characteristics that serve to define social comparison orientation. To recapitulate, interpersonal orientation can be understood as a strong interest in the thoughts and feelings of others, being influenced by others' moods and opinions, and a greater interest in mutual self-disclosure, a definition that appears counter to that which characterises avoidant individuals. For such individuals, self-disclosure creates feelings of discomfort and distress and their need for self-reliance sees an emotional distancing from others, both of which should naturally manifest a disinterest in others' thoughts, feelings, and affective states (research has indeed identified avoidant individuals to report liking individuals less who self-disclose to them (Mikulincer & Nachshon, 1991)). With such a lesser interpersonal interest, individuals characterised by high avoidance should therefore demonstrate a lesser interest in relative standing of self in comparison to others and would further account for why such individuals report a lesser comparison orientation.

Study 2A next examined differences in tendencies to compare upward to perceived better-off others and downward to perceived worse-off others. Regression analyses revealed that as attachment anxiety increases, tendency to engage in upward comparisons also increases. This finding is consistent with Bower and colleagues' (Bower, 1991; Forgas et al., 1990) selective affect-cognition priming model in which it is argued that individuals lower in subjective well-being should demonstrate a negative cognitive bias and engage in social comparisons that provide information consistent with their reduced well-being. That is, they should engage in adverse comparisons and attend

to comparison information that may be interpreted in a way to reflect less favourably on them, reinforcing their feelings of negativity and maintaining their poorer state of subjective well-being. As earlier described, high-anxiety individuals are characterised by negative models of self as unworthy of others' responsiveness and love and have been discussed within the adult attachment literature as demonstrating a negative cognitive bias (Mikulincer & Shaver, 2003). For example, in their romantic relationships, such high-anxiety individuals rely on hypervigilant strategies for indications of partner acceptance but their negative models of self leave them vulnerable to signs of rejection (e.g., Simpson et al., 1999), to interpret relationship events more negatively (Collins, 1996) and to perceive there to be more tensions in their relationships than there are in reality (e.g., Campbell et al., 2005). These negative biases extend beyond romantic relationship contexts into contexts concerning social judgements (see Mikulincer & Shaver, 2003); it is therefore argued that the greater tendency to engage in upward comparisons is an extension and reflection of this bias in social cognitions. From the approach of contrast-typically-as-default in the social comparisons individuals make, for high anxiety individuals with more negative perceptions of self, engaging in comparisons with perceived better-off others would produce unfavourable self-evaluations that are consistent with their negative views of self.

It is surprising that attachment anxiety was not predictive of downward comparison, suggesting that high-anxiety and low-anxiety individuals do not differ in their tendencies to engage in downward comparisons to perceived worse-off others. It was anticipated that as anxiety increases, tendency to compare downwards would decrease due to the above-described negative bias encapsulated within the selective affect-cognition priming model (Bower, 1991; Forgas et al., 1990). Furthermore, for such high-anxiety individuals with more negative models of self, a lesser orientation towards downward comparison might also be reflective of such individuals' negative self-perceptions preventing them from perceiving others as being worse-off than they themselves are. Considering this latter point in particular then, it may be that anxiety was not predictive of downward comparisons because both high-anxiety and low-anxiety individuals demonstrate little tendency to make such comparisons, but the psychological bases differ. That is, for individuals low in anxiety (who are characterised by more positive models of self and greater self-certainty), need to compare generally is small and therefore tendency to engage in comparisons of any direction is minimal. For individuals high in anxiety, the negative models of self that characterises them may

produce their lesser tendency to compare downward due to the difficulty they would face in perceiving others as being in a worse position than they are on the trait under comparative scrutiny.

Consistent with hypotheses, attachment avoidance was not found to be a significant predictor of either upward or downward comparison tendencies. It was argued here that, in accordance with the selective affect-cognition priming model (Bower, 1991; Forgas et al., 1990), whether individuals engaged in upward or downward comparisons would be determined by their perceptions of self, and that negative perceptions would produce the less favourable comparison orientation towards perceived better-off others. Because model of self is more strongly tied to attachment anxiety (e.g., Klohnen & Luo, 2003), it was not believed that avoidance should influence comparison direction. That attachment avoidance was indeed predictive of neither upward nor downward comparison is supportive of the notion that the extent to which an individual perceives themselves positively or negatively is what contributes to determining the general direction of the comparisons they make.

Once general comparison directions were examined, the next focus of Study 2A was on examining specific types of upward and downward comparisons, that is, on examining tendencies to engage in either identification or contrast comparisons with perceived superior others and perceived inferior others. Analyses revealed that as anxiety increases, tendency to contrast from perceived better-off others increases and tendency to identify with perceived worse-off others also increases. These findings suggest then, that when individuals high in attachment anxiety compare themselves with others who appear to be doing better than they are, they tend to focus on what makes them different, providing the specific circumstances to lead to unfavourable self-evaluations. Furthermore, when such high anxiety individuals do compare themselves with others perceived as not doing as well as they are, they attend to this information in such a way as to focus on their similarities, that is, what qualities they share that might suggest they are vulnerable to also experiencing the comparison target's undesirable situation or position.

Counter to expectations, the analyses further identified attachment anxiety to be predictive of downward contrast, such that as anxiety increases, so too does tendency to engage in downward contrast comparisons. Further counter to expectations was the finding of avoidance also as a significant predictor; in this case, as attachment avoidance increases, tendency to contrast downwards decreases. In this latter finding, although

avoidance-based differences for downward contrast were not predicted, it was hypothesised that greater avoidance would be a predictor of *general* increased contrast comparison tendencies and so this finding appears to contradict that which was anticipated. Why highly-avoidant individuals should demonstrate this decreased tendency at this point remains unclear. It could be argued that an observation of decreased comparison orientation of any kind could be reflective of an overall tendency to not compare the self with others however that this finding emerged for downward contrast only (with avoidance not identified as a significant predictor for any of the remaining upward/downward identification/contrast comparison tendencies) renders this possibility questionable. Future research would therefore benefit from further examination of comparison tendencies on the basis of attachment avoidance to determine whether this result is replicable and, if so, provide insight into the psychological mechanisms that might account for it.

The counterintuitive finding for attachment anxiety (that is, increased anxiety predicting increased downward contrast tendency) meanwhile might indeed be a reflection of such individuals' increased tendencies overall in comparing the self to others. Both upward contrast and downward identification were significantly predicted by anxiety. That the strength of both these co-efficients was greater than for downward contrast may reinforce the notion that, while high-anxiety individuals may be particularly vulnerable to engaging in adverse comparisons (i.e. upward contrast and downward identification), the psychological qualities that characterise them (that is, increased interpersonal orientation, self-uncertainty, and chronic activation of models of self and other) may manifest additional, less adverse comparison tendencies also. Conversely, the greater increase in downward contrast as anxiety increases could further be an indication of low-anxiety individuals' overall propensity to engage in fewer social comparisons.

Having identified such comparison tendencies on the basis of anxiety, future research is needed to further explore the anxiety-based differences in comparison tendencies observed here. In particular, the greater tendency to engage in less favourable comparisons (that is, to focus on the similarities to perceived worse-off others and the differences in perceived better-off others) revealed in the current analyses, while still to a lesser extent engaging in more favourable (downward contrast) comparisons could be further explored by examining the 'weight' given to the different types of comparison information gathered. That is, although high-anxiety individuals appear to engage in

downward contrast comparisons, the disconfirming information obtained may be cognitively construed in such a way to prevent psychological benefit. Outside the framework of attachment theory, for example, Gibbons and McCoy (1991) in their study examining reactions to comparison information on the basis of self-esteem found that high self-esteem individuals, when threatened, derogated the comparison target as a means of attenuating adverse feelings. It may be then that high-anxiety individuals' negative cognitive bias would manifest a reluctance to accept the favourable self-evaluative information that arises from a downward contrast comparison. Instead they may demonstrate, for example, a form of derogation of the social comparison information itself or of the comparison target that might allow them to dismiss the resultant positive self-evaluative information. Upward contrast/downward identification comparison information meanwhile, which would be consistent with negative perceptions of self and therefore confirm already-held negative self-beliefs, may be more readily accepted by such individuals, serving to maintain their poorer subjective well-being. A further potential influence in the way in which high-anxiety individuals process comparison information may be found in previous research examining differences in attachment-based recall of positive and negative cognitions. Mikulincer and Orbach (1995) identified that anxious individuals took less time to retrieve memories of negative childhood experiences than they did to retrieve positive ones, suggesting such individuals to have a ready access to more negative cognitions. That secure individuals demonstrate the opposite pattern (that is, less time to retrieve positive than negative memories) reinforces the negative, maladaptive bias that characterises high anxiety. It may be then, that while high-anxiety individuals may make comparisons that are more favourable to their self-views (that is, downward contrast), the comparisons they engage in that are more negative in the subsequent self-evaluations that emerge (i.e. downward identification and upward contrast) may be more salient to them and readily accessible when considering self-worth such as negative childhood memories were more readily accessible in Mikulincer and Orbach's (1995) study. In this way, future research may benefit from examining the importance individuals place on different types of comparison information and the extent to which each different type of information is cognitively integrated into existing self-concepts and in how it is subsequently attended to, influencing self-evaluations.

Although not examining these issues directly, the final step in Study 2A was to examine the mediating potential of social comparison tendencies in accounting for the

earlier-identified associations between attachment and feelings of subjective well-being (namely, life satisfaction and self-esteem). That is, do differences in tendencies to engage in adverse or favourable social comparisons provide insight into the findings that low-anxiety individuals tend to report increased subjective well-being over their high-anxiety counterparts?

The results of mediation analyses revealed upward contrast tendency to partially mediate the association between attachment anxiety and both life satisfaction and self-esteem. For high anxiety individuals then, the observed decreased satisfaction with life and self-esteem can be partially explained by such individuals' greater tendency to engage in unfavourable upward contrast comparisons, that is, their tendency to focus on the differences between themselves and others perceived as having desirable traits or in appealing circumstances. Conversely, for individuals low in attachment anxiety, their greater life satisfaction and self-esteem can be partially explained by their lesser tendencies to engage in such adverse comparisons. Further examination of the self-esteem partial mediation sought to clarify the nature of the mediation, specifically, that it is high-anxiety individuals' tendency to engage in upward contrast that partially accounts for their decreased self-esteem rather than their decreased self-esteem accounting for their comparison tendencies. That self-esteem was identified not to be a mediator supports that it is the tendency to contrast from perceived better-off others that contributes to lower self-esteem rather than such individuals' lower self-esteem influencing tendency to contrast upward. As discussed earlier, the social comparison literature generally finds that comparison habits indicative of downward contrast and upward identification are more beneficial to subjective well-being than comparisons indicative of upward contrast and downward identification (e.g., Brown et al, 1992; Buunk et al., 1990; Cash et al., 1983; Collins, 1996; Lockwood & Kunda, 1997; Swallow & Kuiper, 1987; VanderZee et al., 1996; Ybema & Buunk, 1995). For the current findings then, high-anxiety individuals' tendency to engage in contrast-type comparisons with perceived better-off others is in keeping with the above established literature by contributing towards their less positive perceptions of both their self-worth and the quality of their life circumstances. For feelings of self-esteem, high-anxiety individuals' self-uncertainty leaves them vulnerable to using others as a source of self-evaluative information (compared to low-anxiety individuals whose early attachment experiences have allowed them to form an autonomous, coherent sense of self). In tending to contrast themselves from others perceived as superior to themselves, such

individuals, whose self-uncertainty should make them more reliant on others as sources of self-evaluative information, would interpret this information in such a way to perceive themselves as inferior in the characteristic under scrutiny. This resultant perceived inferiority would then account for high-anxiety individuals' lower self-esteem; to repeatedly engage in comparisons in which the self is perceived as inferior to others would see evaluations of self-worth and -esteem be lower. For low-anxiety individuals meanwhile, who the results here suggest demonstrate a lesser tendency to engage in such comparisons, the lesser tendency to contrast upwards from others may similarly contribute towards their higher self-esteem through their lesser attention given to such adverse comparison information.

With regards to life satisfaction not only should the feelings of inferiority that result from upward contrast contribute to a lower satisfaction with life circumstances through serving to reinforce that one's own situation is poorer than others, but so too could it contribute via issues surrounding acceptance. As earlier discussed, Gibbons and Buunk (2006) stated that individuals higher in social comparison orientation should be higher in levels of conformity, as indicated by lower scores on Big Five trait 'openness to experience'). It was argued earlier here that greater desire for conformity to social group norms echoes principles similar to the desire for acceptance that characterises high-anxiety individuals, as to conform to socially-prescribed group norms suggests social acceptance. By more often engaging in contrast comparisons to perceived better-off others, a high-anxiety individual may cognitively interpret this gap between inferior self and superior other as an indication that they do not meet the standards set by others and therefore fall short of the criteria for the acceptance they desire. By serving to reinforce the doubts of acceptance held by high-anxiety individuals, it may be then that this upward contrast comparison information contributes towards decreased satisfaction with life due to life circumstances falling short of such individuals' ideal.

With upward contrast revealed as the only partial mediator for the association between attachment anxiety and well-being factors life satisfaction and self-esteem, this may provide insight into the earlier discussion of the different psychological 'weights' given to different types of comparison information. Although further empirical clarification will be required in future research, the results here hint that upward contrast comparison tendencies play the bigger role in influencing individuals' post-comparison self-evaluative inferences. None of upward identification, downward contrast, or downward identification comparison tendencies was revealed as a partial mediator

between attachment anxiety and life satisfaction and self-esteem. Inherent in this, therefore, is the implication that the self-relevant information gleaned in these ways does not impact on the feelings of satisfaction and worth predicted by individuals' levels of anxiety and so may not have the same level of importance that upward contrast information has in informing cognitive well-being judgements. As earlier stated, future research would benefit from further examination of this issue.

However, important to consider in the above discussion is that, because of the nature of mediation analyses, the interpretation regarding causation is one that must be made with caution as such analyses do not allow for a concrete determination of which variable in fact serves as mediator. Theoretical derivation must guide interpretation, such that the mediation model that makes most logical sense within its theoretical context should provide the basis for inferences made. In the current mediation analyses, the more logical of interpretations of the current results would suggest, for example, that it is their greater tendency to contrast from perceived-better off others that partially explains why highly-anxious individuals report lower life satisfaction and self-esteem. Whilst it may instead be that it is attachment anxiety in higher upward-contrasting individuals that partially explains why greater tendency to engage in upward contrast comparisons is predictive of lesser life satisfaction and self-esteem, the steps in the analyses that allow for such mediations to be identified make this interpretation less logical. Specifically, such an inference would require upward contrast comparison tendency to be predictive of attachment anxiety, that is, propensity to engage in adverse comparisons to perceived better-off others to be predictive of how individuals perceive themselves and others (either positively or negatively) within interpersonal contexts and the extent to which they worry both over the quality and nature of their interpersonal experiences and others' regard of them. On this basis then, it is argued (although cannot be confirmed) that it is upward contrast tendency that serves as the partial mediator and not attachment anxiety.

In sum, the results of Study 2A revealed much about the roles of attachment anxiety and avoidance in predicting differences in social comparison tendencies. In considering the results together, it appears that attachment anxiety (which more strongly relates to model of self) is the stronger predictor of comparison tendencies, suggesting anxiety's role to be more influential in determining differences in comparison practices. Anxiety was found to be predictive of increased general social comparison orientation, upward comparison, increased downward contrast, downward identification, and upward

contrast, with the latter found to serve as partial mediators for the associations between anxiety and each of life satisfaction and self-esteem. Attachment avoidance meanwhile was found to be predictive of lesser general social comparison orientation and lesser downward contrast. This would appear to suggest that it is individuals' perceptions of self (that is, positivity or negativity in model of self), level of hyperactivation of the attachment system, the self-certainty that arises from self-concept complexity (Mikulincer, 1995), and desire for social acceptance play a greater role in influencing social comparison habits than does the level of interpersonal orientation (that is argued here to be determined by level of attachment avoidance). That is not to say that avoidance does not have an influence (indeed the significant findings revealed here are directly counter to this) but simply that it is the insecurity encapsulated by feelings of anxiety that appears to more comprehensively determine directional habits, as well as the extent to which similarities or differences in comparison information are focused on.

While the above has provided insight, limitations of the current study must be considered. Sample size was quite small ($N = 140$) and so the lack of significant findings identified on the basis of attachment avoidance may not be an indication of its lesser role in predicting social comparison differences but rather a reflection of the lesser power afforded in a smaller sample size. However, examination of the p values did not indicate that the non-significant findings may become significant with a greater sample size (i.e. were not approaching significance), nor did the strength of the beta coefficients indicate that a pattern was emerging.

A further limitation that must be considered when interpreting the above results lies with a slight ambiguity regarding what increased and decreased tendencies in identification and contrast comparisons actually indicate. For example, anxiety's significant predictive value for upward contrast suggested high-anxiety to predict an increased tendency to engage in adverse contrast comparisons with perceived better off others (with low-anxiety therefore suggesting a decreased tendency to engage in upward contrast). What this may indicate are two possibilities: for low-anxiety individuals, it may be that such individuals do tend to engage in comparisons but upward contrast may represent a small proportion of the total comparisons they make; or that a lower tendency to engage in upward contrast is just an extension of their lesser tendency to make comparisons generally. It is a limitation of the current study that a differentiation between these two possibilities cannot be made and as such future research examining differences in identification and contrast processes on the basis of attachment

orientations should consider this factor when assessing such differences in comparison habits.

A final related limitation hinted at above may be found in the simplistic nature of the methodology utilised; the aim of the current study was an exploratory one, that is, to identify previously unidentified associations between attachment dimensions anxiety and avoidance and social comparison tendencies. The present study has therefore revealed novel findings that, while perhaps rudimentary, have confirmed the predictive value of self-reported adult attachment that can be used as a basis to guide and inform future research (and indeed have been utilised here to provide theoretical guidance for Studies 4 and 5 in the present thesis).

With comparison tendencies identified, the next step in the current exploration of attachment-based differences in social comparison was to use diary-study methodology to examine the nature of individuals' affective states surrounding the comparisons made on a daily basis.

Study 2B

The findings of Study 2B found several anxiety-based differences in the affective experiences surrounding individuals' naturalistic social comparisons. Firstly, it was found that, regardless of comparison direction, individuals high in attachment anxiety reported a more positive mood before engaging in social comparison than individuals low in attachment anxiety. This finding was consistent with that which was hypothesised and is therefore theoretically consistent. As reasoned when forming hypotheses, a combination of the findings of research testing and contradicting Will's downward comparison theory (1981) and the findings of Study 2A in the current series of work led to the anticipation of decreased anxiety predicting decreased pre-comparison mood. Individuals higher in subjective well-being are argued to be better able to engage in favourable social comparison processes to improve state feelings of decreased well-being (in the current study, decreased mood); the research findings examining the above downward comparison theory generally find that higher-subjective well-being individuals engage in more favourable comparisons. With low anxiety indicating a positive model of self as worthy of love, individuals reporting such feelings should have feelings of increased subjective well-being over their high-anxiety counterparts due to the positivity in the valence regarding their self-concepts. As such, it was argued that when mood is lower, low-anxiety individuals may be more likely to engage in social comparison in order to address this decreased state of well-being. This contention was

further argued on the basis that low-anxiety individuals were identified as less likely to engage in unfavourable comparisons, a pattern that whilst not directly assumes an increased tendency to engage in more favourable social comparisons, indicates a more positive bias in how self-other judgements are utilised. A weakness in the current study's method of measurement was that there was no option for participants to state the nature of individuals' upward and downward comparisons, only that comparison targets were perceived either as superior/more desirable or inferior/less desirable on the trait under comparative scrutiny. As such, any discussion of possible identification and contrast processes is speculative; a possible indication of the nature of individuals' comparisons could be derived from their post-comparison moods and is a discussion point to be addressed later here. With the above limitation in mind, the results appear to suggest that it is a lower mood that is reported by low-anxiety individuals before making a comparison and may hint at a tendency to use social comparisons to their advantage.

What is interesting to consider regarding high-anxiety individuals' reporting of increased mood (over low-anxiety individuals) before engaging in social comparison is that this pattern may be suggestive of further reinforcement of the negative bias that research suggests typifies this attachment orientation (see Shaver & Mikulincer, 2003). The findings of Study 2A suggested that high-anxiety individuals demonstrate a greater tendency to engage in adverse downward identification and upward contrast, both of which should produce unfavourable self perceptions through either focusing on that which differentiates the self from the superior or links to the inferior other. In the current sample then, that high-anxiety individuals reported a more positive mood before making comparisons suggests that such individuals may be susceptible to cognitive processes that maintain poorer subjective well-being: in instances where transient well-being is more positive (in this case affective well-being), high-anxiety individuals engage in social comparisons that typically provide them with unfavourable self-evaluative information that should serve to return them to their poorer trait well-being. Put another way, whether aware of it or not, high-anxiety individuals may stop themselves from experiencing the improved subjective well-being their low-anxiety counterparts do.

However, this must be understood within the context of the limited information regarding trait affect levels and the extent to which positivity/negativity of mood was experienced pre-social comparison. In examining the visual presentation of the regression slopes (e.g. Figure 26), with mood being on a scale of 1 (most negative) to 7 (most positive), the moods typically reported by high-anxiety individuals was at only

slightly higher than the middle point; whilst this indicates mood to be more positive than negative, this does not indicate an overwhelming positivity. What would be useful and informative to know is how this pre-comparison mood differs from individuals' baseline moods; previous research has identified high-anxiety individuals to typically report decreased mood and so it may be that this pre-comparison mood level for high-anxiety individuals is higher than typical baseline levels (and similarly the decreased mood reported by low-anxiety individuals may be lower). Future research utilising this methodology in assessing individuals' moods surrounding the social comparisons they make would benefit from considering inclusion of baseline mood measurement.

The results of analyses testing Hypothesis 1b revealed anxiety to be predictive of post-comparison mood (regardless of the direction of the comparison being made). Specifically, high-anxiety individuals were found to report a decreased post-comparison mood over their low-anxiety counterparts. However, the inclusion of self-esteem in the regression equation saw the predictive value of anxiety to become non-significant, suggesting this pattern to be entirely explainable by their differing levels of self-esteem. As such, high-anxiety individuals' low self-esteem (in which perceptions of self as of lesser worth, an inclination to the self as a failure, and as having less to offer than peers) sees them experience a poorer mood in the immediate moments after having made a social comparison. Although model of self and self-esteem are considered similar constructs (indeed, model of self encapsulates feelings of worth and lovability in the eyes of others), they are not equivalent (as indicated in countless studies by the non-perfect correlations and coefficients in testing the strength of their associations); whilst it could be argued that the predictive value of attachment anxiety may lie with the self-perceptions encapsulated within the models of self that echo the qualities captured by self-esteem, this is perhaps an over-extension and as such is inaccurate. Future research may provide further insight through deeper examination of the characteristics of individuals' self-perceptions that influence post-comparison moods.

Individuals' reports of mood before making upward comparisons revealed a significant interaction between anxiety, avoidance, and upward comparison: individuals fitting preoccupied (high anxiety/low avoidance) and fearful (high anxiety/avoidance) attachment classifications reported the highest mood before engaging in upward comparison, followed by secure-type individuals and lastly, reporting the lowest pre-comparison mood, dismissing-type individuals. These findings are in keeping with the general pre-comparison mood results that were tested for in Hypothesis 1a; it appears

that individuals high in attachment anxiety report higher pre-comparison mood than their low-anxiety counterparts. This once again is suggestive of a negative bias within such individuals that at times perhaps when their affective well-being appears slightly more positive, they engage in adverse self-other judgements that should produce unfavourable self-evaluations. Indeed that higher anxiety saw a greater tendency to engage in upward contrast should further reinforce high-anxiety individuals' tendency to maintain poorer overall subjective well-being and is in keeping with Bower and colleagues' selective affect-cognition priming model (Bower, 1991; Forgas et al., 1990) that puts forward that decreased well-being should produce a tendency to engage in unfavourable comparisons to reinforce and maintain those adverse feelings. That secure-type individuals and dismissing-avoidant-type individuals were revealed to share a similar decreased pre-upward comparison mood is suggestive of the reverse pattern in which decreased mood may lead to making social comparisons that could see an affective improvement.

What was interesting to note upon examining Figure 28 were the differences across the attachment 'groups' between pre-upward comparison moods and pre-non-upward comparison moods (i.e. lateral and downward). While both preoccupied- and fearful-type individuals reported slight increased mood still (that is, at similar levels to their pre-upward comparison moods), most markedly, individuals fitting a dismissing-avoidant classification reported a more substantial increased mood. For dismissing-type individuals then, the results appear to suggest that before engaging in upward comparisons, mood appears to be less favourable, but when engaging in either lateral or downward comparison, mood appears more positive. It may be that for high-avoidance/low-anxiety individuals, comparison direction remains consistent with affective state of mind. That is, when feeling more positive, dismissing-avoidant individuals are more like to draw comparisons between themselves and others that would maintain their more positive feelings of well-being, but when in worse moods, similarly consistent upward comparisons in which the self may be seen as inferior are more likely to be made. Both these patterns may be suggestive of both the defensive nature that characterises their orientation as well as highlights that dismissing-avoidance is indeed, despite a positive model of self, a form of insecurity. When mood is more positive, dismissing-avoidant individuals (whose high avoidance was identified in Study 2A to predict a greater tendency to engage in downward contrast) may attend more to comparison information in which the self is presented more favourably than the other,

suggesting a pattern of positive self-perception maintenance. When mood is less positive however, it may be that in this state of lesser affective well-being, the comparison information that is more apparent to dismissing-avoidant individuals may be that from perceived better-off others that is less advantageous with regards to positive-self maintenance (that is, suggestive of a negative bias similar to that demonstrated by anxious individuals). However, as indicated earlier in the discussion of Study 2A regarding high-anxiety individuals' tendencies to both identify with and contrast from perceived worse-off others, it may be that for dismissing-type individuals a poorer affective state of mind manifests upward comparisons, but the importance placed on such information is defensively limited. That is, while their insecurity may make upward comparisons more likely when mood is poorer, the defensiveness that characterises them may produce derogation of that upward comparison information. While change in mood in response to upward comparison (the results of the present analyses examining exactly this are to be discussed shortly) is indicative of how individuals interpret and respond to comparison information, it may be useful for future research to examine attachment-based differences in cognitive reactions to such information. For example, utilising a similar methodology as employed by Gibbons and McCoy (1991) in which self-esteem-based differences in comparison target derogation were identified would be informative. Specifically, Gibbons and McCoy were able to identify that men high in self-esteem, when threatened, derogated target others' competence while women's derogation manifested disliking. Deeper examination of (in the current instance) dismissing-avoidant-type individuals' cognitive responses to potentially threatening comparison information may provide further insight into the current findings.

That individuals fitting the secure attachment classification were the only 'group' to report the pattern of more positive mood before upward than non-upward suggests that mood consistency in upward comparisons may be a characteristic in attachment insecurity. Indeed, secure-type individuals' less positive mood before making lateral and downward comparisons compared to their pre-upward moods suggests that lateral/downward comparison may be used to improve affective well-being. The more positive mood before upward comparison is perhaps contrary to expectation as such a comparison should intuitively produce less favourable outcomes. However, it must be noted that, similar to preoccupied- and fearful-type individuals, the difference between the upward and non-upward slopes are only very slight and so when considered together may just represent a general trend of the observed mood level being predictive of social

comparison (as indicated in earlier findings here). That is, secure-type individuals themselves are unlikely to notice a difference in mood as slight as that indicated in Figure 28. Indeed, as earlier highlighted, the slopes presented in Figure 28 suggest the levels to be only just above the middle point of the 1-7 mood scale. For individuals fitting the secure attachment classification this may represent a lower mood than that which is typically experienced and may instead be a reflection of lower mood levels generally being indicative of comparisons being made.

One potential factor that must be considered in examining the differences in pre-comparison moods is that, rather than individuals' moods influencing them to make certain types of comparison (that is, upward or non-upward comparisons), it may simply be that differences in mood produce differences in perceptions of targets' positions relative to the self. That is, it may be that, for example, dismissing-type individuals' lower mood makes them more likely to see target others as being better than them on the characteristic being compared, while a greater mood makes them more likely to perceive target others as either equal or inferior. While there are many advantages to using event-contingent diary study methodology (see Wheeler, 2000, for a review) it is a further limitation of the current study that the methodology chosen to be utilised meant that this distinction could not be made. Indeed, to be able to consider the accuracy of participants' other-judgements in terms of superiority/inferiority, ratings by independent third-party individuals would need to be employed to allow for the assessment of participants' self-reported ratings. However the practicality of being able to implement such a course of action is somewhat limited given the naturalistic nature of the present comparison measurement. Such a methodology would be more practical in less naturalistic settings (i.e. if participants were within a laboratory setting) and so is a limitation that could not be accounted for in the present study. Indeed this point regarding the accuracy of individuals' judgements regarding their upward and downward comparisons (that is, whether individuals demonstrate actual trends or what they report is merely a product of their differing levels of well-being) is an issue that is relevant to all research within the social comparison literature. However, with the present study identifying that such differences regarding comparison direction do emerge on the basis of attachment orientations, this provides direction for future research to further explore the highlighted issues. It would be interesting to examine more in-depth whether individuals' pre-comparison moods indeed influence the types of comparisons they make (upward or downward) or whether those moods instead

influence how they perceive comparison targets (that is, in a more positive mood the same target could be viewed more favourably than when in a more negative mood).

The analyses examining the predictive value of attachment anxiety for post-downward comparison mood produced results approaching significance; high-anxiety individuals reported higher post-downward comparison mood than their low-anxiety counterparts, suggesting the trend of the former individuals benefitting more from such comparison information over the latter. It appears then that although earlier results within Study 2A identified high-anxiety individuals to demonstrate a greater tendency to identify with downward targets compared to their low-anxiety counterparts, the increased tendency also to contrast from perceived worse-off others that additionally emerged may have governed the current sample in their downward comparison responses. That high-anxiety individuals reported an increased mood does support the theoretical notion not only that such individuals' have a greater reliance on others for self-validation (due to negative less certain self-concepts resulting in greater susceptibility to change in response to external information) but also is supportive of the findings of previous research that suggest such individuals to demonstrate a greater emotional reactivity (e.g., Meyer et al., 2005; Mikulincer & Orbach, 1995; Mikulincer et al., 1998; see Mikulincer & Shaver, 2005, for review). That is, not only might high-anxiety individuals respond more favourably because the downward comparison information disconfirms negative self-perceptions of being of lesser worth, but their affective profiles would see a greater positive emotional response manifesting from the self-evaluative benefit. Their low-anxiety counterparts meanwhile may still benefit from information that confirms their positive self-perceptions of lovability and being worthy, but their lesser reliance on others for self-validation and more moderate emotional reactivity would be expected to produce an affective response of lesser strength.

Further interesting concerning post-downward comparison mood were the slopes identified for non-downward (i.e. lateral and upward combined) comparisons. Here, the opposite pattern as revealed for downward comparison emerged; high-anxiety individuals reported a lower mood than low-anxiety individuals. The complementary consistency evidenced here further supports the above theoretical consideration of the underlying mechanisms that were put forward as perhaps accounting for post-upward comparison mood differences. That is, anxious individuals' poorer self-certainty would result in greater vulnerability to comparison information influencing self-judgments, and that the less favourable non-downward comparison information would confirm their

negative models of self as being of lesser worth producing poorer mood. However, this must be considered in the context that examining of post-upward comparison mood did not produce significant results, that is, no anxiety-based differences in affective response to upward social comparison. Here then the slopes presented in Figure 29 must be interpreted in the context that the less positive mood presented is the result of non-downward rather than upward per se (indeed as included in this term is both upward and lateral comparisons). That no significant differences emerged directly for upward comparison is counter to the above theorising. It remains unclear why no differences were revealed in post-upward comparison mood but the results considered together suggest that it is the information garnered from downward comparison information that has a greater impact on the mood individuals report as influenced by their feelings of attachment anxiety.

As mentioned briefly earlier, one means of gaining insight into how individuals interpret social comparison information is through their affective reactions, that is, their *change in mood* in response to attending to self-other judgments. Indeed much research examining individuals' responses to social comparison information concentrate on self-reported mood as a means of identifying whether individuals perceive themselves as inferior or superior to the comparison target (e.g., Buunk & Ybema, 2003) and so the final focus of Study 2B was to extend this form of examination to gain insight into attachment-based social comparison processes.

Firstly, affective reactions were examined in response to having made a social comparison generally (that is, regardless of whether the information gleaned was upward or downward in its direction). Anxiety was revealed to be a significant predictor, with visual presentation of the slopes suggesting high anxiety to be predictive of decrease in mood and low anxiety to be predictive of minimal change. The results then seem to indicate that high-anxiety individuals have a tendency to make more negative inferences regarding the traits they are comparing with others. This is consistent with the findings of Study 2A revealing anxiety-based differences in identification and contrast, specifically, that high-anxiety individuals reported greater tendency to identify with target others perceived as being in an undesirable situation or as having undesirable qualities while complementarily reporting a greater tendency to contrast from others perceived as having qualities or being in circumstances that are appealing and superior to themselves. In seeing similarities between the self and perceived worse-off others and differences between the self and perceived better-off others, self-perceptions would be

anticipated to be negatively impacted upon and would hence result in a decrease in mood. Low-anxiety individuals' minimal change to their mood in response to having engaged in a social comparison meanwhile could be reflection of both the increased self-certainty that characterises this orientation (e.g. Wu, 2009) serving as a buffer against cognitive and affective ill-effects (through the resilience against external informational influence) and because of the more moderate levels of affective reactivity in comparison to their high-anxiety counterparts. Conversely, any comparison information which would see more positive self-judgments should similarly produce more limited affective reaction (to those argued to be exhibited by high-anxiety individuals) due to confirming such individuals' already positive models of self as worthy (as well as producing the lesser reliance on external information for self-evaluations). In sum, the findings of mood change in response to having engaged in social comparison are theoretically consistent.

Upon examining mood change in response to comparisons of specific directions (that is, upward and downward), similar to the analyses examining post-moods the findings here revealed anxiety to be predictive of mood change in response to downward comparison but not upward. The results suggested that both high and low anxiety individuals seemed to respond similarly in their mood change to downward comparisons, but that a greater difference between these two 'groups' was evidenced for non-downward comparisons (lateral and upward); high-anxiety individuals responded more negatively to such comparisons than their low-anxiety counterparts. It is interesting that high- and low-anxiety individuals reported similar increases in mood. Although only very slight, the increases in mood reported may be similar but it is argued that the mechanisms accounting for the changes are different. For low-anxiety individuals, the minimal benefit from downward comparison is argued to be the result of the above outlined theoretical principles; for high-anxiety individuals who should intuitively benefit more from such information, it may be evidence for the earlier-argued possibility for derogation that could prevent gaining much benefit.

Although earlier discussion here has highlighted a few limitations in the current study, a further one which may account for the lack of consistent statistical findings could be due to the nature of the measurement of mood. Although changes in mood from more negative/less positive to more positive/less negative has been informative, further, clearer insight may have been provided through the use of measurement that would allow for the separate assessment of positive and negative mood. Indeed, there is much

in the literature examining mood constructs that suggest positive and negative mood should not be assumed as being two ends of the same affective spectrum but instead while related, they are independent (e.g., Tellegen, Watson, & Clark, 1999). The decision to use the current method of mood measurement was made on the basis that it had been used with success on previous research (Wood et al., 2000). However, other studies utilising a measure in which positive and negative affect are assessed separately (e.g., Olson & Evans, 1999) have revealed findings that may indicate that assessing mood change on a single mood spectrum, as in the current study, may miss certain affective processes taking place. As such, future research exploring attachment-based differences in social comparison and mood would benefit from assessing the two affect dimensions separately as such would provide further insight into the benefits and detriments of engaging in self-other evaluations.

In sum, the current study revealed a number of findings consistent with theorising and therefore suggests that individuals' attachment orientations do indeed predict differences in the affective antecedents and responses to social comparison information. With these findings identified, the next step in the current series of work was to examine individuals' attachment-based differences in the comparisons they engage in regarding interpersonal factors, specifically, both romantic relationships and partners. Given the centrality of attachment proclivities in interpersonal processes, it was argued that comparisons within such a specific context would reveal differences both in the tendencies to engage in comparisons as well as the nature of the comparisons made (for example, whether upward or downward, identifying or contrasting, and what specific interpersonal qualities are typically placed under comparative scrutiny). However, before being able to assess such associations, the types of partner and relationship qualities (based on attachment anxiety and avoidance) that individuals place importance on, and therefore may be subject to comparison, needed to be examined. Through identifying which traits individuals judge to be important in their interpersonal experiences it was hoped to utilise this information to guide later assessment of romantic partner and relationship social comparisons and so the next step to be carried out was examination of partner and relationship ideal standards.

Chapter 4. Study 3: Adult Attachment and Partner and Relationship Ideal Standards

Research by Fletcher and colleagues (Fletcher & Simpson, 2000; Fletcher, et al., 2000; Fletcher et al., 1999) has examined the nature of individuals' ideal standards when it comes to their partners and relationships. Argued to play a fundamental role in relationship processes, individuals' interpersonal ideals serve as an evaluative standard for a current partner and relationship and are used to regulate and create cognitive and behavioural adjustments. Through factor analytic work, Fletcher et al. (1999) identified individuals' partner ideals to be divided into three dimensions and relationship ideals into two dimensions. The first partner ideal, Warmth-Trustworthiness, comprises characteristics relevant to intimacy, warmth, trust, and loyalty and is typically the highest rated in terms of importance placed on by individuals (e.g., Fletcher et al., 1999). The second ideal was termed Attractiveness-Vitality and consists of characteristics describing how attractive, energetic, and healthy an ideal partner is. The final partner dimension, Status-Resources, includes characteristics associated with a partner's social status and resources, such as a good job, financial security, and good dress sense. Similar to the partner ideals, the first relationship ideal of Intimacy-Loyalty (encompassing such characteristics as intimacy, loyalty, trust, and stability) is typically rated as more important than the second ideal, Passion (which pertains to qualities such as excitement, passion, fun, and independence).

Previous research

There is a substantial history of research dedicated to examining individual differences in partner and relationship ideals, with gender being of particular focus. Although not testing the dimensions identified by Fletcher et al. (1999) directly, research has generally identified the pattern of males prioritising partner appearance - fitting into the Attractiveness-Vitality dimension - and females prioritising partner material and financial resources - matching those characteristics defining Status-Resources (e.g., Buss, 1989; Hill, 1945; Li, Bailey, Kenrick, & Linsenmeier, 2002; Sprecher, Sullivan, & Hatfield, 1994; see Feingold 1990, 1992 for meta-analyses). It should be noted, however, that some studies have not identified gender-differentiated patterns in partner preferences and ideals (e.g., Regan & Anupama, 2003), even suggesting there to be a

convergence of ideals reported by males and females in recent years (Buss, Shackelford, Kirkpatrick, & Larsen, 2001).

To date, only one study has been identified as examining the association between attachment orientation and partner and relationship ideal standards. In their study utilising a Norwegian university sample, Arseth, et al. (2009) found that those categorised as dismissing-avoidant reported significantly lower scores on partner factor Warmth-Trustworthiness than those categorised as preoccupied and significantly lower scores on relationship factor Intimacy-Loyalty than those categorised as secure. Furthermore, those classified as preoccupied reported significantly lower scores on relationship factor Passion than those classified as dismissing-avoidant. No differences emerged for Attractiveness-Vitality and Partner Status-Resources factors. It should be noted, however, that a possible limitation within this study, and perhaps accountable for the limited differences found for some of the aforementioned partner and relationship subscales, was the utilisation of categorical assessment of adult attachment. Participants in this study completed the Relationship Questionnaire (Bartholomew & Horowitz, 1991) by indicating the extent to which each of the four attachment descriptions were representative of their feelings within close relationships. Participants were subsequently categorised into one of the four attachment classifications on the basis of which description they rated as most relevant to themselves. While this methodology is one that has been widely used within the adult attachment literature, recent years have seen researchers draw attention to the limitations inherent in such categorical assessment. In Arseth et al.'s (2009) study, participants' responses indicated a certain level of agreement with *each* of the four attachment descriptions, highlighting a concern voiced within the adult attachment literature that categorical assessment creates an overly simplistic and finite impression of each individual's attachment proclivities and assumes reciprocal exclusivity of attachment orientations (such that endorsement of one style means absolute non-endorsement of others). Furthermore, this focus on creating discrete *inter-categorical* group differences seems to be at the expense of considering *intra-categorical* variation, that is, each individual classified into a certain category is conceptualised and treated as experiencing attachment-related cognitions and feelings identically (see Crowell, Fraley, & Shaver, 1999, for discussion). The above finding that individuals in actuality tend to agree to varying extents to each attachment description suggests that forced assignment into one classification may be too restrictive.

In support of these criticisms, research has suggested that fitting attachment patterns into categorically distinguishable models can indeed create issues in measurement precision and subsequent analyses (Fraley & Waller, 1998; Waller & Meehl, 1998; see Fraley et al., 2000 for discussion). Furthermore, research examining the test-retest stability of this form of assessment finds relatively high levels of disagreement (Stein et al., 2002) with further research finding that the disagreement rates do not change as the interval between testing changes (Baldwin & Fehr, 1995), suggesting the discrepancies to be an artefact of measurement error rather than reflecting “true” change in individuals’ attachment orientations. Alternatively, dimensional measures of attachment orientation, in which individual differences in anxiety and avoidance can be placed along a continuum, allow for a more precise and accurate appraisal of individuals’ attachment-related feelings and cognitions. As such, dimensional conceptualisation and measurement of adult attachment is argued to provide a greater insight into the intricacies inherent in individuals’ understanding and experience of their attachment relationships (e.g., Fraley & Waller, 1998).

With this in mind, the aim of the current study was to explore the association between adult attachment (as measured dimensionally) and romantic partner and relationship ideals. In identifying the partner and relationship characteristics that individuals rate as being important qualities to them it is the aim that this information be used as a basis for later examination within the current series of studies of the types of attachment-based social comparisons individuals typically make in their romantic relationships.

The following hypotheses were made:

Hypothesis 1. Greater attachment anxiety will predict higher partner warmth-trustworthiness ratings while greater attachment avoidance will predict lower ratings.

The basis of this hypothesis originates in the consideration of the insecure qualities that characterise high anxiety and avoidance. With regards to anxiety, high-anxiety individuals are characterised by uncertainty within their relationships. Such individuals have a negative working model of self as being of lesser worth and unlovable and gain validation of the self through others’ regard and responsiveness (that is, they are unable to validate the self autonomously). Furthermore such individuals are characterised as having a hyper-activated attachment system manifesting hypervigilance to partner

behaviours for signs of acceptance. It is argued on this basis then that as anxiety increases, the characteristic of partner warmth-trustworthiness should increase in importance also. For the high-anxiety individual, the qualities that are encapsulated within warmth-trustworthiness (such as supportive, communicative, reliable, and affectionate) are those that can be interpreted as confirming partners' regard of them. For a partner to be reliably supportive, openly affectionate, and to disclose personal feelings while listening to their own disclosures is to meet high-anxiety individuals' relationship intimacy desires whilst providing evidence of the acceptance they need for validation. For low-anxiety individuals whose working models of self are positive (that is, worthy of love), self-validation can be achieved autonomously; low-anxiety individuals do not share high-anxiety individuals' need for partner acceptance and as such it was anticipated that they would place lesser importance on the acceptance-indicating characteristics encapsulated with partner warmth-trustworthiness.

With regards to avoidance, a major characteristic differentiating high-avoidance individuals from low-avoidance is comfort with closeness (e.g., Collins & Read, 1990). As earlier described, high-avoidance individuals' discomfort with closeness is a manifestation of early caregiver non-responsiveness that produces within the individual a distrust of others and subsequent defensive self-reliance. High-avoidance has been found in previous research within the adult attachment literature as being associated with distress in high-intimacy situations (e.g., Bradford, Feeney, & Campbell, 1998; Rholes et al., 1998; Rholes et al., 1999) and in keeping with the theoretical contention that the need for autonomy that typifies highly-avoidant individuals produces an aversion to others' perceived intimacy-seeking behaviours. The characteristics that warmth-trustworthiness consist of are exactly those that should give rise to highly-avoidant individuals' discomfort with emotional closeness and as such it was predicted that as avoidance increases, the importance placed on this partner factor would decrease.

Hypothesis 2. Greater attachment avoidance will predict higher partner attractiveness-vitality ratings.

No hypothesis was made on the predictive value of attachment anxiety on perceptions of the importance of partner attractiveness-vitality. Whilst it could be argued that high-anxiety individuals' validation of self through their romantic partners might see them rate partner attractiveness highly due to the esteem gained from having a

physically desirable partner, it was reasoned that the overall appeal of a highly attractive partner would lie in the characteristic's meeting with physical needs rather than anxiety-based needs and hence attractiveness-vitality was not anticipated to differ on the basis of this attachment dimension.

However, it was anticipated that ratings of the importance of partner attractiveness-vitality would differ on the basis of attachment avoidance. It was reasoned that highly-avoidant individuals, whose discomfort with closeness is argued to manifest lesser importance placed on intimacy-related ideals, would instead value partner characteristics not related to these distress-inducing traits. As such, highly-avoidant individuals may focus their ideals on non-intimacy traits such as the physical appearance of a romantic partner. That is, it is more important to such individuals that romantic partners have good looks and a nice body, which does not encroach upon their need for autonomy and emotional distance, than for romantic partners to be communicative, warm, and a good listener, each of which may activate the attachment system they defensively suppress due to the feelings of discomfort that arise.

Hypothesis 3: Greater attachment avoidance will predict higher partner status-resource ratings.

The theoretical basis for Hypothesis 3 was the same as that put forward within Hypothesis 2; high-avoidance individuals' discomfort with closeness is anticipated to manifest a greater importance being placed on characteristics not pertaining to intimacy. As such, the extent to which a romantic partner is successful (that is, has a good job, nice home, and is financially secure) is suggested to appeal more to highly-avoidant individuals than their low-avoidance counterparts on the basis that it is not threatening to their high-independence relationship needs.

Hypothesis 4: Greater attachment anxiety will predict higher relationship intimacy-loyalty ratings, while greater attachment avoidance will predict lower ratings.

As with the partner characteristic ideal of warmth-trustworthiness, a similar pattern was anticipated for relationship intimacy-loyalty ideal standard ratings. High-anxiety individuals' preoccupation with partner acceptance and fear of rejection should see such individuals place greater importance on intimacy-loyalty (comprising qualities

such as commitment, acceptance, and loyalty) than their low-anxiety counterparts. Their low-anxiety counterparts meanwhile with their lesser insecurity regarding their partners' regard would not be expected to rate partner intimacy and loyalty as highly due to their positive working models of self allowing for autonomous self-validation and hence lesser reliance on positive partner behaviours in determining judgements regarding self-worth.

Also similar to Hypothesis 1 concerning partner warmth-trustworthiness, the differing levels of comfort with closeness that characterise the attachment avoidance dimension was anticipated to produce differences in the importance placed on relationship intimacy and loyalty. For high-avoidance individuals whose desire for autonomy and independence see adverse reactions to others' high-intimacy behaviours (e.g., Mikulincer & Nachshon, 1991; Rholes et al., 1998; Rholes et al., 1999), it was anticipated that such individuals would rate this relationship trait as less important to them than their low-avoidance counterparts who, with their comfort with intimacy-inducing behaviours in others, would view such a relationship trait as appealing and hence greater in importance to them.

Hypothesis 5. Greater attachment anxiety will predict higher relationship passion ratings while greater attachment avoidance will predict lower ratings.

The final relationship trait Passion comprises characteristics such as exciting, passionate, and romantic, relationship qualities that, similar to intimacy-loyalty and partner warmth-trustworthiness, alludes to interpersonal closeness. As such the above pattern (that is, greater anxiety and lower avoidance predicting increased ratings of importance) was anticipated due to the aforementioned differing levels of comfort with closeness that characterise avoidance and the insecurity over negative self-perceptions and partner regard that characterise anxiety.

Method

Participants

In total, 224 participants took part in the current study, of whom 176 (78.6%) were female and 48 (21.4%) were male. Age ranged from 18 to 64 ($M = 29.03$, $SD = 10.96$). Two hundred and one participants (89.7%) identified themselves as heterosexual, 5 (2.2%) as homosexual and 15 (6.7%) as bisexual; 3 participants (1.3%) identified themselves as "Other". Fifty-six (25.0%) of participants reported not currently being in a

relationship; of the remaining 75% who were in a relationship at the time of the study, 66 (29.5%) were not co-habiting while 41 (18.3%) were, 6 (2.7%) were engaged, and 47 (21.0%) were married. Of the remaining, 7 (3.1%) were separated, and 1 (0.4%) was divorced. Relationship length ranged from 1 month to 35 years 1 month ($M = 65.36$ months, $SD = 85.16$ months).

Measures

Demographic Questionnaire. As in previous studies, participants were asked to complete a demographic questionnaire. Questions comprised of gender, age, countries of origin and residence, relationship status, sexual orientation, and length of relationship if applicable (in years and months).

Adult Attachment. Participants' attachment orientation was measured in the same way as in previous studies using the Experiences in Close Relationships – Revised (Fraley et al., 2000) scale. In the current study, Cronbach's alpha was .94 for both anxiety and avoidance.

Partner and Relationship Ideal Standards Scale. Partner and relationship ideals were measured using the partner and relationship ideal standards scales created by Fletcher et al. (1999). This measure is divided into two separate scales with the partner scale comprising 41 traits and the relationship scale comprising 27 traits. The partner scale consists of three subscales: Warmth-Trustworthiness (e.g., Understanding, Affectionate, and Supportive); Vitality-Attractiveness (e.g., Independent, Spontaneous, and Attractive); and Status-Resources (e.g., Financially secure, Successful, and Dresses well). The relationship scale meanwhile consists of two subscales: Intimacy-Loyalty (e.g., Honest, Good communication, and Acceptance); and Passion (e.g., Exciting, Fun, and Passionate). Participants are asked to rate each listed characteristic according to the importance they place on it in describing either their ideal partner or relationship. Responses are in a Likert-type format and range from 1 (Very Unimportant) to 7 (Very Important) with scores for each subscale calculated as the mean of all characteristics the subscale comprises. The scales have been well-validated in previous research, demonstrating good reliability (e.g., Fletcher et al., 1999). Cronbach's alphas of the factors confirmed in the present study are presented in Table 37.

Procedure

As in Studies 1 and 2, participants could access the study via the university's web pages. Participants provided online consent to take part and completed the initial set of measures. Upon completion, participants were presented with a final webpage fully

debriefing them on the aims of the study and providing information on the measures included in the study.

Results

Factor Analysis. A principal components factor analysis with varimax rotation was carried out on the items contained within the partner and relationship scales in order to confirm the five factors first identified by Fletcher et al. (1999). Results of the analysis indicated that for the present sample, the partner ideals data was best described by a 4-factor solution that accounted for 57.0% of the total variance.

Table 35. Partner Ideals Factor Loadings and Alphas

	Warmth- Trustworthiness	Fun	Success	Physical Attractiveness
Considerate	.80			
Supportive	.80			
Trustworthy	.79			
Understanding	.79			
Kind	.75			
Good Listener	.72			
Honest	.71			
Affectionate	.71			
Warm	.71			
Reliable	.67			
Sensitive	.65			
Communicative	.57			
Stable	.55			
Romantic	.46			
Good Fun		.64		
Independent		.62		
Adventurous		.61		
Good Humour		.57		
Outgoing		.56		
Easy-going		.53		
Self-aware		.49		
Good Job			.83	
Successful			.79	
Financially Secure			.78	
Nice House			.71	
Dresses Well			.56	
Ambitious			.55	
Active Lifestyle			.51	
Nice Body				.75
Attractive				.70
Sexy				.67
Good Lover				.49
Cronbach's alpha	.93	.82	.89	.83

Examination of the rotated component matrix (see Table 35) revealed the first factor was defined by items similar to those produced by Fletcher et al (1999) and as such was labelled “Warmth-Trustworthiness”. The second factor was defined by high loadings on 7 items, including such traits as “Easy-going”, “Good Fun”, and “Good Sense of Humour”, which seemed to reflect fun, non-serious partner characteristics and as such was labelled “Fun”. The third factor was also defined by high loadings on 7 items (e.g., “Dresses Well”, “Financially Secure”, and “Good Job”) and was labelled “Success”. The final factor was defined by high loadings on 4 items (e.g., Nice Body”) and was labelled “Physical Attractiveness”. Nine items (e.g., “Appropriate Age”, “Broad-minded”) did not clearly load on any of the four factors and so were dropped from subsequent analysis.

Table 36. Relationship Ideals Factor Loadings and Alphas

	Intimacy-Loyalty	Passion
Respect	.82	
Support	.77	
Loyalty	.77	
Trusting	.77	
Caring	.76	
Honest	.74	
Stability	.74	
Understanding	.73	
Good Communication	.68	
Commitment	.68	
Acceptance	.62	
Monogamous	.60	
Friendship	.59	
Relaxed	.45	
Equality	.44	
Intellectual Equality	.42	
Exciting		.80
Passionate		.78
Romantic		.69
Fun		.68
Challenging		.66
Independence		.41
Cronbach's alpha	.92	.80

Factor analysis of the relationship ideals scale revealed a 2-factor solution that accounted for 49.48% of the total variance. Both factors resembled those originally

produced by Fletcher et al. (1999) and as such, Factor 1, defined by loadings on 16 items, was labelled “Intimacy-Loyalty” and Factor 2, defined by loadings on 6 items, was labelled “Passion” (see Table 36). Four items, “Affectionate”, “Similar Personalities”, “In Love”, and “Humorous” did not clearly load onto either factor and so were removed from further analysis.

While the relationship ideals identified in the current study matched those first created by Fletcher et al. (1999), the partner ideals deviated somewhat such that the original partner attractiveness-vitality ideal appeared to load onto two separate factors (labelled “Fun” and “Physical Attractiveness”). As a result of this, Hypothesis 2 was amended to reflect these newer factors:

Hypothesis 2. Greater attachment avoidance will predict higher partner fun and physical attractiveness ratings.

Descriptive Statistics and Correlations

Means and standard deviations are presented in Table 37.

Table 37. Means and Standard Deviations

Variable	Mean	Standard Deviation
Attachment Anxiety	3.19	1.26
Attachment Avoidance	2.80	1.11
Warmth-Trustworthiness	5.97	.81
Fun	5.28	.92
Success	4.25	1.26
Physical Attractiveness	4.85	1.14
Intimacy-Loyalty	6.13	.77
Passion	5.18	.98

Examination of the anxiety and avoidance dimension means revealed both to be slightly lower than means established previously within the adult attachment literature utilising the Experiences in Close Relationships – Revised scale, suggesting the current sample to be lower in attachment insecurity generally. However, it should be noted that three-quarters of the sample for the current study were in a committed romantic relationship with the mean age of the sample overall to be approaching 30. Further findings within the adult attachment literature have indicated attachment insecurity to decrease as age increases and for individuals in committed romantic relationships to

report lower levels of anxiety and avoidance (see Fraley, 2011) and so the current means may be a reflection of these previously-established trends.

Upon examining the partner and relationship ideal standards means, the scores appear consistent with those established previously by Fletcher et al., (1999) in their original article creating the scale.

Pearson correlation coefficients were first calculated to explore the associations between attachment and the partner and relationship ideals identified through factor analysis.

Table 38. Attachment and Partner and Relationship Ideals Correlations

	1	2	3	4	5	6	7	8
1. Anxiety	-	.45***	-.03	-.11	-.01	-.07	-.03	.06
2. Avoidance		-	-.29***	-.18**	-.11	-.18**	-.19**	-.15*
3. Warmth-Trustworthiness			-	.56***	.46***	.34***	.87***	.54***
4. Fun				-	.51***	.57***	.57***	.74***
5. Success					-	.54***	.45***	.57***
6. Physical Attractiveness						-	.32***	.57***
7. Intimacy-Loyalty							-	.55***
8. Passion								-

* $p < .05$

** $p < .01$

*** $p < .001$

Surprisingly, attachment anxiety did not correlate with any of the partner and relationship ideal standards. However, significant negative correlations emerged between attachment avoidance and all but one of the ideals (Partner Success). Comparing once again to the findings originally reported by Fletcher et al. (1999), the correlations among the partner and relationship ideal standard factors were generally consistent with those previously identified. One notable difference however is the significant positive correlation between Partner Success (similar to Fletcher and colleagues' original Partner Status-Resources) and Partner Warmth-Trustworthiness and Relationship Intimacy-Loyalty. In their original paper, these sets of correlations were non-significant. A possible reason accounting for this incongruence could be due to the slight variations in the items that comprise each factor. However, the remaining significant correlations were similar and hence in keeping with established patterns.

Adult attachment and partner ideal standards

Hypothesis 1 put forward that greater attachment anxiety would predict higher partner warmth-trustworthiness ratings while greater attachment avoidance would predict lower ratings. Partner warmth-trustworthiness was regressed onto anxiety and avoidance at the first step and their interaction term at the second; the overall model was significant ($F = 9.31$ (3, 223) $p < .01$) and accounted for 10.1% of the variance (Adjusted R^2). Attachment avoidance ($\beta = -.36$, $p < .001$) was a significant predictor, while attachment anxiety was not significant (although approaching, $\beta = .13$, $p < .08$). Hypothesis 1 was therefore partially supported: greater avoidance predicts a decreased value placed on warmth-trustworthiness when it comes to romantic partners. While the pattern of increased anxiety predicting increased importance of partner warmth-trustworthiness did emerge, it did not quite reach significance and hence Hypothesis 1 could not be fully supported.

The anxiety*avoidance interaction term was found to be a significant predictor ($\beta = .13$, $p = .05$) and is presented in Figure 31.

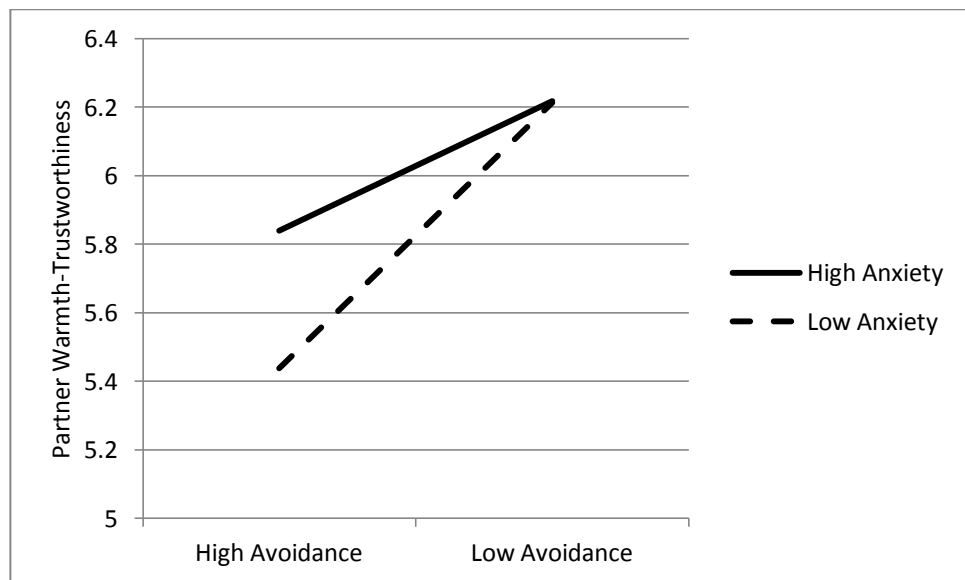


Figure 31. Attachment Anxiety and Avoidance as Predictors of Partner Warmth-Trustworthiness

Table 39. Simple Slopes Analyses for Attachment and Partner Warmth-Trustworthiness

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	2.6704 ^a
Secure and Preoccupied	.0299
Fearful-avoidant and Preoccupied	-2.573 ^a
Secure and Dismissing-avoidant	-4.8828**

^a $p < .08$

** $p < .01$

When relating the information presented in Figure 31 to attachment classifications, individuals fitting preoccupied (high anxiety/low avoidance) and secure (low anxiety/avoidance) attachment classifications placed the greatest importance on partner qualities encompassing warmth and trustworthiness (with slopes analyses indicating the difference between the two to be non-significant). Individuals fitting a dismissing-avoidant attachment classification (that is, low anxiety/high avoidance) reported placing the least importance on partner warmth-trustworthiness; fearful-avoidant-type individuals meanwhile (high anxiety/avoidance) reported placing intermediate importance on this partner trait.

Hypothesis 2 put forward that greater attachment avoidance would predict higher partner fun and physical attractiveness ratings. First, partner “Fun” was regressed onto anxiety, avoidance (first step), and their interaction term (second step). The model was significant ($F = 2.59$ (3, 223), accounting for 2.1% of the variance (Adjusted R^2). Only attachment avoidance ($\beta = -.17$, $p < .05$) significantly predicted partner fun ratings and was contradictory to hypotheses; greater attachment avoidance predicted *decreased* importance on traits capturing fun in a romantic partner.

Next, “Physical Attractiveness” was examined. The model was significant ($F = 3.03$ (3, 223) $p < .05$) and accounted for 2.7% of the variance (Adjusted R^2). Similar to “Fun”, only avoidance was a significant predictor ($\beta = -.17$, $p < .05$), suggesting that greater avoidance predicts a decreased value on partner attractiveness. Hypothesis 2 was therefore not supported.

Hypothesis 3 put forward that greater attachment avoidance would significantly predict increased importance being placed on partner status and resources (re-named Partner Success after the factor analysis carried out in the present study). The model was not significant with none of anxiety, avoidance nor their interaction term revealed to be a significant predictor. Hypothesis 3 was therefore not supported.

Hypothesis 4 suggested that greater anxiety would predict higher relationship intimacy-loyalty ratings while avoidance would predict lower ratings. Intimacy-loyalty was regressed onto anxiety, avoidance, and their interaction term; the model was significant ($F = 4.71$ (3, 222) $p < .01$) and accounted for 4.8% of the variance (Adjusted R^2). Attachment anxiety was not a significant predictor, however both attachment

avoidance ($\beta = -.24, p < .01$) and its interaction with anxiety ($\beta = .14, p < .05$) were. Figure 32 presents the interaction.

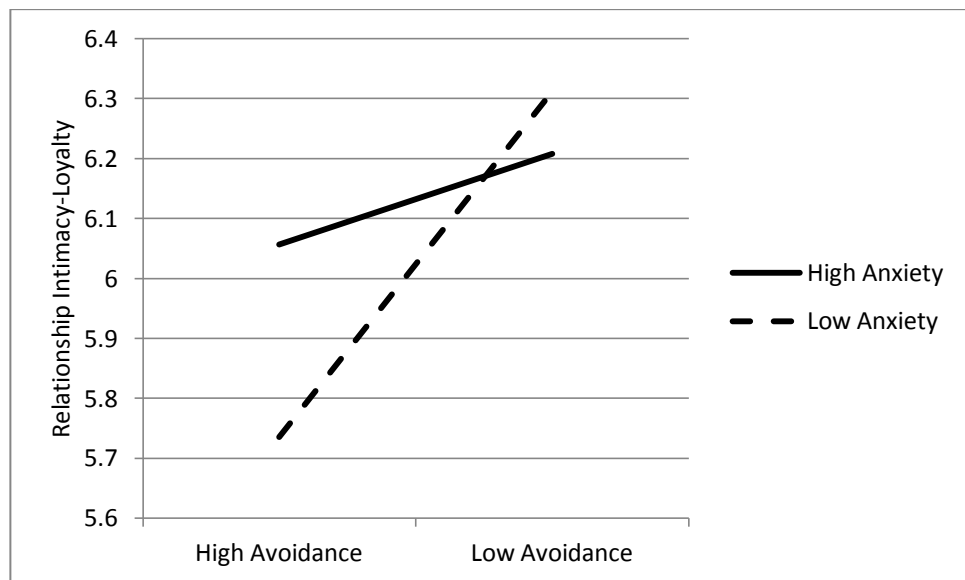


Figure 32. Attachment Anxiety and Avoidance as Predictors of Relationship Intimacy-Loyalty

Table 40. Simple Slopes Analyses for Attachment and Relationship Intimacy-Loyalty

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	2.1994 ^a
Secure and Preoccupied	-.6811
Fearful-avoidant and Preoccupied	-1.0517
Secure and Dismissing-avoidant	-3.7185*

^a $p < .09$

* $p < .05$

Interpreting the above interaction within the context of attachment orientations, individuals fitting a secure attachment classification reported placing the greatest importance on relationship intimacy-loyalty followed by individuals fitting the preoccupied classification (although slopes analyses confirmed these two slopes to have a non-significant difference). Similar to partner warmth-trustworthiness, dismissing-avoidant-type individuals reported placing the least importance on relationship intimacy and loyalty with fearful-type individuals reporting intermediate levels.

Lastly, relationship “Passion” was examined. The model was significant ($F = 3.30$ (3, 222) $p < .05$) and accounted for 3.0% of the variance (Adjusted R^2). While their interaction was not significant, both attachment anxiety ($\beta = .16, p < .05$) and avoidance ($\beta = -.22, p < .01$) were significant predictors of the Passion ideal. Greater attachment

anxiety therefore predicts increased importance of intimacy and loyalty in romantic relationships while greater avoidance predicts decreased importance, supporting Hypothesis 5.

Discussion

The purpose of the current study was to examine differences in romantic partner and relationship ideal standards on the basis of attachment anxiety and avoidance. Although the predictive value of adult attachment had been examined in previous research (Arseth et al., 2009), the current study was carried out to examine attachment-based influences as measured dimensionally rather than categorically in order to address some of the limitations inherent within the latter's method of assessment. A further major aim of the current study was for the findings to be utilised in creating a measure of partner- and relationship-based social comparisons to be carried out in Study 4.

The results here revealed that the interaction between anxiety and avoidance was a significant predictor of partner warmth-trustworthiness (comprising qualities such as honest, understanding, and supportive). More specifically, it was found that individuals fitting secure and preoccupied attachment classifications reported placing the greatest importance on this partner trait, followed by individuals fitting fearful-avoidance and lastly individuals fitting the dismissing-avoidant classification. It was anticipated that individuals higher in attachment anxiety would report a greater endorsement of the value of this partner trait and so it is surprising that secure (low anxiety) and preoccupied (high anxiety) individuals reported similarly. However, that dismissing- and fearful-type individuals reported placing less importance on the warmth-trustworthiness trait is consistent with the expectation that greater avoidance would be predictive of decreased endorsement. Insight into the overall findings here may be provided by considering the aforementioned relationship subgoals of intimacy and independence (Pietromonaco & Feldman Barrett, 2000), the experiences of which help individuals to attain feelings of felt security (Sroufe & Waters, 1977). The low levels of attachment avoidance that characterise secure- and preoccupied-type individuals should see them endorse the relationship subgoal of high intimacy in their relationships. As such it is theoretically consistent that individuals fitting either of these two attachment classifications should place greater importance on partner qualities that capture the high-intimacy desires these two attachment-types share. Indeed, partners who are communicative, good listeners, and are supportive are displaying behaviours that promote increased intimacy in relationships (that is, behaviours akin to disclosure of personal thoughts and feelings as

well as provision of support that studies have previously identified secure- and anxious-type individuals to utilise and respond favourably to (e.g., Larose et al., 1999; Mikulincer & Florian, 1995; Mikulincer et al., 1993; Simpson et al., 1992; see Feeney & Collins, 2004, for review)). As such, partners with these types of warmth-trustworthiness qualities should be viewed as better able to meet attachment needs and hence be rated as an important romantic partner ideal. While it was anticipated that high-anxiety individuals' insecurities regarding partner regard and acceptance would manifest a stronger desire for partner qualities that address their anxiety-based concerns, it appears that preoccupied individuals' anxieties do not see a greater importance being placed on partner warmth-trustworthiness than that reported by secure individuals. However, while the reported levels of importance do not differ between these two attachment 'groups', it is argued here that the bases from which these levels originate do differ. It may be that while preoccupied-type individuals' ratings result from anticipated benefit to be gained from rejection-disconfirming partner behaviours, secure-type individuals ratings may instead result more simply from the high-intimacy behaviours themselves representing potential for actualising relationship subgoals. It is a limitation in the current study that the underlying mechanisms accounting for the observed differences in partner and relationship ideal standards cannot be examined. With the aim of the current study however being to identify differences in ratings of partner and relationship qualities on the basis of dimensionally-assessed self-reported attachment, the findings revealed here may be seen as providing direction for future work to further examine the cognitive bases that determine individuals' ideal interpersonal qualities.

Individuals fitting the dismissing-avoidant (low anxiety/high avoidance) classification are argued to be driven by relationship subgoals of low intimacy and high independence. Due to the high avoidance that characterises dismissing-type individuals they experience a discomfort with closeness with others and it is this that produces the desire for low levels of intimacy in their relationships. The combination of low anxiety with their high avoidance meanwhile results in a defensive need for autonomy and therefore produces the subgoal of high independence so that this autonomy is not perceived as being infringed upon. In considering the qualities that encapsulate partner warmth-trustworthiness then, the exact facets that low-avoidance individuals (that is, secure and preoccupied) are argued to find appealing and hence rate as more important are the ones argued to be rated as less important to dismissing-type individuals because such characteristics are in direct conflict with their relationship subgoals. That is,

dismissing-avoidant individuals who are self-reliant (through utilising defensive strategies to suppress activation of their attachment systems so that others are not needed to attenuate any attachment-related feelings of distress which in turn allows them to maintain a desired emotional distance from interdependence) would see partner traits such as being affectionate, supportive, and communicative as intrusive to their avoidant orientation and therefore unpleasant to them (e.g., Brennan et al., 2002; Mikulincer & Nachshon, 1991)

Interestingly, individuals fitting the fearful-avoidant attachment classification rated the importance of warmth-trustworthiness at a level intermediate between low-rating dismissing individuals and high-rating secure and preoccupied (though it should be noted that the difference between the plotted slopes was only approaching significance). To recapitulate, such individuals, who are characterised by both high anxiety and avoidance, maintain a self-protective emotional distance from others because their negative models of both self and other produce cognitions that anticipate rejection from untrustworthy others due to their perceptions of low self-worth. In considering attachment subgoals, such individuals' high anxiety and avoidance should see the subgoals of both high intimacy and high independence – subgoals that appear in direct conflict with each other. Indeed, much research has highlighted this discord between both desiring closeness with others and fearing the negative consequences of emotional investment in interpersonal experiences (e.g., Bartholomew, 1990; Bartholomew & Horowitz, 1991; Guerrero, 1996; see Collins & Feeney, 2008, for a review). However, previous research has established that fearful-avoidant-type individuals do report wanting much more closeness in their romantic relationships than what they are currently experiencing (Mashek & Sherman, 2008) indeed suggesting that their high-intimacy subgoal, whilst at odds with their desire for high independence, is a means for attaining felt-security. Because of their fear of partner rejection, one could expect that fearful-avoidant individuals would place the greatest importance on partner warmth-trustworthiness; to have anxieties regarding partner non-responsiveness to the extent of maintaining distance from the very emotional connection that they desire should elevate the importance of partner behaviours indicative of acceptance (i.e. supportive, considerate and reliable characteristics that encapsulate warmth-trustworthiness). However, that fearful-type individuals in the current study reported a decreased importance being placed on this partner trait in comparison to secure- and preoccupied-type individuals could be an indication of a cognitive strategy being utilised

to address the dichotomy between their high-intimacy desires and high-independence behaviours. Festinger's theory of dissonance (1957) put forward that in cases of conflicting attitudes or beliefs, individuals undergo an attitude change in order to reduce the cognitive tension such dissonance produces. When applied to fearful-avoidant-type individuals in the current study, it may be that the conflicting cognition of desiring intimacy and action of maintaining distance (and hence conflict between high-intimacy and high-independence subgoals) produces a derogation of the importance of intimacy- and acceptance-related partner traits encapsulated within the warmth-trustworthiness ideal standard. However, that previous work (Mashek & Sherman, 2008) found fearful-avoidant individuals to openly report discrepancies between desired levels of intimacy and actual levels of intimacy currently being experienced does serve as a counter to the above theoretical proposition. As highlighted earlier, the nature of the current study (in which direct associations between attachment dimensions and partner and relationship ideal standards were the empirical focus) does not allow for consideration beyond theoretical speculation of the underlying cognitive processes driving the current findings. As such future research on this topic would benefit from utilising methodologies that permit the examination of the psychological intricacies that may provide further insight.

The findings concerning the relationship ideal standard intimacy-loyalty were similar to those discussed above: individuals fitting the dismissing-avoidant attachment classification reported placing the least importance on intimacy and loyalty in their relationships, followed by fearful-avoidant-type individuals. Also consistent with the findings for warmth-trustworthiness was that secure-type and preoccupied-type individuals did not significantly differ in the increased importance of relationship intimacy-loyalty reported. Indeed, that each of the two partner and relationship ideals comprised facets that capture the same qualities (that is, trust, support, understanding, communication, and acceptance) and also strongly correlated with each other ($r = .87, p = <.001$) makes this replicated pattern in attachment-based differences unsurprising. As such it is believed that the above discussion on the theoretical principles accounting for differences in partner warmth-trustworthiness (that is, differences in comfort with and desire for intimacy and resultant relationship subgoals) is highly applicable here also.

Counter to hypothesised expectations in which increased attachment avoidance was anticipated to predict increased endorsement of partner fun and physical attractiveness, the results of regression analyses revealed the opposite pattern: increases

in attachment avoidance saw decreases in the rated importance of the physical attractiveness and fun concerning romantic partners. It was reasoned that greater endorsement would be evident in higher-avoidance individuals because of the non-intimacy nature of such partner traits; partners who are physically attractive or out-going do not indicate characteristics that may suggest behaviours that infringe upon autonomy or compromise comfort levels with intimacy. Indeed, partner fun in particular, which is comprised of qualities such as being independent and easy-going, would be expected to be directly appealing to high-independence relationship subgoals. However, in considering each of the findings together that originate from attachment avoidance it appears then that this attachment dimension is characterised by a general lesser importance being placed on romantic partner and relationship qualities overall. Indeed, this general trend of lesser importance is further reinforced by the findings regarding relationship passion, also revealing that greater avoidance predicts lesser value of this relationship ideal. The findings of the present study then expand upon current existing knowledge on attachment avoidance by demonstrating that not only do individuals high in avoidance report a downplaying of need for interdependence (Mikulincer & Shaver, 2005) and to report having less personal commitment in dating circumstances (Ho et al., In Press), high-avoidance individuals seem to also judge typically-endorsed partner and relationship ideal standards as less relevant to them and may be a contributory factor into previously-established research findings on why such individuals report decreased satisfaction with their interpersonal experiences. If highly-avoidant individuals do not find any particular partner and relationship facets to be important or appealing to them, then the gratification they would derive from partners and relationships who exemplify such characteristics would be less compared to what low-avoidance individuals may derive. Future research would benefit from considering partner and relationship ideals as a potential mediating factor in examining attachment-based differences in relationship satisfaction. For example, the discrepancy between ratings of ideal levels of each of the partner and relationship characteristics included within Fletcher et al.'s (1999) ideal standards scale and ratings on actual current partners and relationships may reveal the roles of ideal standards in contributing towards satisfaction derived from romantic experiences.

An interest highlighted earlier within the current study was on whether dimensional assessment of attachment would provide more insight into partner and relationship ideal standards than the categorical assessment that had been utilised in

previous research (Arseth et al., 2009). To recapitulate the findings of this research, Arseth and colleagues identified that dismissing-avoidant individuals rated partner warmth-trustworthiness as less important to them than ratings provided by preoccupied individuals while further identifying dismissing individuals to rate relationship intimacy-loyalty as less important than that which was reported by secures. Lastly, dismissing individuals reported placing greater importance on relationship passion than preoccupied individuals. With regards to the current findings on partner warmth-trustworthiness and relationship intimacy-loyalty, there is consistency in the patterns identified, however the further significant associations identified here between attachment avoidance and partner attractiveness and fun may be an indication of the benefit of utilising dimensional measurement methods. However, to suggest this to be the only source of the difference in significant findings would be overly simplistic and inaccurate. An obvious potential source may lie within the participant samples utilised in each study. The current study was conducted online and so the participant sample was a non-student one with a mean age of 29 years with a standard deviation of nearly 11. This current sample therefore differs from Arseth et al.'s (2009) in that the sample comprised of University students with a younger mean age ($M = 23.2$) and a more condensed age group ($SD = 4.6$); no information was provided on romantic relationship characteristics. It may be then that differences in age and occupation might contribute to differences in significant findings between these two studies. However, due to the earlier-highlighted limitations in categorical assessment (that is, loss of information regarding intra-categorical variation at the creation of inter-categorical boundaries, as well as forced assignment into a single category despite agreement to varying extents with each of the four available choices), this factor cannot be discounted as a possible contributor.

The results of the current study provided useful information on the differences in partner and relationship ideal standards individuals hold on the basis of their attachment orientations. With a major aim of this study being to identify significant associations to then be utilised to further examine earlier-identified differences in social comparison processes (Chapter 3, Study 2), the next step in the current series of work could be carried out. Specifically, it was the intent that the findings of the current study be used as a template to create a measure of partner and relationship social comparisons to identify attachment-based differences in the comparisons individuals engage in within interpersonal-specific contexts.

Chapter 5. Study 4: Adult Attachment, Partner and Relationship Social Comparisons and Well-Being

Study 4A: Creation of the Partner and Relationship Social Comparison Measure (PRSCM)

In their article examining relationship comparison tendencies, insecurity, and relationship satisfaction, Smith LeBeau and Buckingham (2008) utilised a Relationship Social Comparison Measure (RSCM) to assess general comparison tendencies within a relationship context. Similar in principle to Gibbons and Buunk's (1999) Iowa-Netherlands Social Comparison Orientation Measure (INCOM), this measure consists of 24 Likert-type relationship comparison items in which respondents must indicate the extent to which they perceive themselves as engaging in the behaviour described by each item, ranging from 1 ("Never") to 5 ("Always"). Although certain items within this measure are suggestive of representing differentiated factors (e.g., "I compare how dependable my partner is in comparison to other people's partners" suggesting a partner quality focus while "When I am feeling bad about my relationship I compare my relationship to other people's relationships" suggests a focus on identifying pre-comparison antecedents), the measure is not divided into separate scales and is intended instead to be analysed and interpreted as a single scale.

As with the INCOM (Gibbons & Buunk, 1999), examining differences in general social comparison tendencies is indeed informative (Smith LeBeau and Buckingham's (2008) findings of differences in relationship comparison tendencies on the basis of insecurity, self-esteem, and anxious and avoidant attachment is testament to this contention) but it is argued here that a more in-depth exploration of the *nature* of such relationship comparison tendencies (that is, examination of the specific types of qualities being compared) would be beneficial in identifying what factors may be predictive of relationship-related comparisons, as well as in advancing our understanding of what comparison processes are actually taking place and providing insight into associated differences in subjective and relationship well-being. To this end, the aim of Study 4A was to expand upon the Relationship Social Comparison Measure (Smith LeBeau & Buckingham, 2008) by utilising items from the Partner and Relationship Ideal Standards Scale (Fletcher et al., 1999), as well as modified upward, downward (Butzer & Kuiper,

2006), and identification and contrast (Van der Zee et al., 1999, 2000) comparison items so that specific factors could be examined.

Method

Participants

The participant sample whose data was used in the creation of the partner and relationship social comparison measure in the current study is that which is reported in Chapter 4 (Study 3); the information on the demographics of this participant sample can therefore be located within this earlier study (p207).

Measures

Partner and Relationship Ideal Standards Scale. The main measure of interest in the current study was the partner and relationship ideal standards scales created by Fletcher et al. (1999). Whereas in its original format this measure consists of three partner subscales (Warmth-Trustworthiness, Status-Resources, and Vitality-Attractiveness) and two relationship subscales (Intimacy-Loyalty and Passion), factor analysis in Study 3 identified 4 partner subscales (Warmth-Trustworthiness, Fun, Physical Attractiveness, and Success). Factor analysis produced two relationship subscales similar to those reported by Fletcher and colleagues' and so were named the same. Information on Chronbach alpha scores can be located in Study 3.

Relationship Social Comparison Scale. In its original format, the Relationship Social Comparison Scale (Smith LeBeau & Buckingham, 2008) is a 24-item measure in which participants must indicate on a 5-point Likert-type scale the extent to which they engage in the comparisons described by each item. Example items include 'I think about how well my partner and I communicate with each other compared to how well other couples communicate with each other', 'I compare my relationship to other people's relationships when I am in a bad mood', and 'I pay a lot of attention to how well my partner and I resolve problems compared to how well other couples solve their problems'. In the current study, the Relationship Social Comparison Scale was used as a basis to create a modified version that would permit examination of more specific partner and relationship comparisons as identified in the Partner and Relationship Ideal Standards Scale (Fletcher et al., 1999).

Procedure

With the aim of the current study being the creation of a measure of partner- and relationship-based social comparisons based on the data collected for Study 3, the procedure for data collection is identical to that which was reported in this earlier study.

Results

Examination of the Relationship Social Comparison Scale in its original form revealed seven items that, while focused on aspects of relationships, were not specific to any characteristics or traits (e.g., “I compare how happy I am in my relationship to how happy I think others are in their relationships”, “I compare how satisfied I am with my relationship to how satisfied I think others are in their relationships”). These items were retained in order to examine general relationship social comparison tendencies.

Partner and relationship characteristics were selected via the factor analysis carried out in Study 3 on Fletcher et al.’s (1999) Partner and Relationship Ideal Standards Scale. In order to not overburden participants with too many items to respond to, it was decided that items should be excluded according to the following steps. Firstly, only those items that clearly loaded onto a given factor were considered for inclusion (see Table 37). Next, for each partner and relationship factor, mean scores were examined. Social comparison theory in its original conceptualisation (Festinger, 1954) put forward that it is the opinions, beliefs, and abilities that are important to the individual that are most subjected to evaluation through comparative reflection. On this basis it was reasoned that items with the highest mean scores should be selected; for each of partner warmth-trustworthiness, fun, and success, and relationship intimacy-loyalty, four items were selected. Factor analysis had revealed partner physical attractiveness and relationship passion factors to have fewer items (four and six respectively) and so three items for each of these two final factors were selected. Table 41 presents the means and standard deviations for each of the items selected for inclusion in the current study.

Table 41. Partner and Relationship Ideals Means and Standard Deviations

	Warmth- Trustworth iness	Fun	Success	Physical Attractiven ess	Intimacy- Loyalty	Passion
<i>Partner</i>						
Trustworthy	6.66 ± .89					
Honest	6.54 ± .98					
Understanding	6.25 ± .1.03					
Reliable	6.17 ± 1.16					
Humour		6.05 ± 1.18				
Fun		5.63 ± 1.27				
Independent		5.42 ± 1.23				
Self-aware		5.33 ± 1.26				
Ambitious			4.76 ± 1.65			
Active-Lifestyle			4.57 ± 1.65			
Successful			4.50 ± 1.61			
Good Job			4.26 ± 1.63			
Attractive				4.89 ± 1.35		
Sexy				4.82 ± 1.45		
Good Body				4.23 ± 1.46		
<i>Relationship</i>						
Honest					6.58 ± .93	
Trust					6.56 ± .92	
Loyalty					6.44 ± 1.02	
Respect					6.42 ± .96	
Fun						5.68 ± 1.22
Passionate						5.56 ± 1.45
Romantic						5.22 ± 1.37

Two items from the relationship social comparison scale (“When I am feeling good about my relationship I compare my relationship with other people’s relationships” and “When I am feeling bad I compare my relationship to other people’s relationships”) were suggestive of assessing pre-comparison antecedents; two items adapted from Buunk et al. (1990) were added to further examine conditions in which tendencies to compare may arise (“I compare my relationship to other people’s relationships when I am in a bad mood” and “I compare my relationship to other people’s relationships when I am in a good mood”).

The above steps resulted in a total of thirty-four items, listed in Table 42.

Table 42. Partner and Relationship Social Comparison Measure Items

1. I compare how happy I am in my relationship to how happy I think others are in their relationships
2. I pay attention to how well my partner and I resolve problems compared to how well other couples solve their problems
3. I think about what types of activities my partner and I participate in together compared to what other couples do together
4. I compare how my partner and I treat each other to how other couples treat each other
5. I compare how satisfied I am with my relationship to how satisfied I think others are in their relationships
6. I compare how much time my partner and I spend together to how much time other couples spend together
7. I think about how often my partner and I argue compared to how often other couples argue

8. When I am feeling bad about my relationship, I compare it to other people's relationships
9. When I am feeling good about my relationship, I compare it to other people's relationships
10. I compare my relationship to other people's relationships when I am in a bad mood
11. I compare my relationship to other people's relationships when I am in a good mood

12. I think about how trustworthy my partner is in comparison to other people's partners
13. I compare how independent my partner is in comparison to other people's partners
14. I think about how active my partner's lifestyle is in comparison to other people's partners
15. I think about how attractive my partner is compared to how attractive other people's partners are
16. I think about how honest my partner is in comparison to other people's partners
17. I compare how good my partner's sense of humour is to other people's partners
18. I compare how ambitious my partner is to how ambitious other people's partners are
19. I compare how understanding my partner is to how understanding other people's partners are
20. I think about how much fun my partner is compared to other people's partners
21. I compare how successful my partner is in comparison to other people's partners

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22. I compare my partner's body to other people's partners
 23. I compare how reliable my partner is to how reliable other people's partners are
 24. I compare how self-aware my partner is compared to other people's partners
 25. I think about how good my partner's job is in comparison to other people's partners' job
 26. I think about how sexy my partner is in comparison to other people's partners
-
27. I compare how honest my partner and I are in our relationship to how honest other couples are with each other
 28. I compare how passionate my relationship is to how passionate other couples' relationships are
 29. I think about the level of respect there is in my relationship compared to the respect I think other relationships have
 30. I think about how much fun my partner and I have together in comparison to how much fun I think other couples have with each other
 31. I think about how loyal my partner and I are to each other in comparison to how loyal other couples are to each other
 32. I think about how romantic my relationship is compared to how romantic I think other couples' relationships are
 33. I compare the level of trust between my partner and I to the trust I think other couples have in their relationships
 34. I compare how much independence there is in my relationship to the independence in others' relationships
-

Study 4B: Adult Attachment, Relationship Comparisons, and Well-Being

The results of Study 2A revealed anxiety to be a significant predictor of social comparison orientation, such that as anxiety increases, so too does the tendency to engage in social comparison. The theoretical basis for this finding was argued to be due to high-anxiety individuals' hyperactivation of their attachment systems in which working models of self and other are chronically accessible (which findings by Stapel and Tesser (2001) indicated that greater salience of self-related cognitions was associated with increased social comparison tendencies while Buunk and Gibbons (2006) put forward that greater awareness of self in the presence of others should produce a similar increased tendency). Further reasoned as a basis to believe high-anxiety to be predictive of increased social comparisons was high-anxiety individuals'

less clear self-concepts. To recapitulate, Mikulincer (1995) identified that individuals reporting as anxiously attached had less clearly defined associative networks, that is, they consisted of poorly differentiated self-schema. More recent findings by Wu (2009) of anxiety as a significant predictor of self-uncertainty and reduced self-concept clarity provide further support of this. With a fundamental tenet of Festinger's (1954) social comparison theory being occasions of uncertainty producing the desire to compare the self to others (a tenet also characterising Gibbon's and Buunk (1999) social comparison orientation), the lack of self-concept clarity and certainty associated with anxious individuals provides a final insight into why increased comparison tendencies should be evidenced by such individuals. But what of social comparisons within a specific interpersonal context? While individuals' self-concept clarity may indeed contribute towards a greater orientation for romantic relationship comparisons, it is argued here that relationship uncertainty plays a bigger role.

Individuals high in attachment anxiety (and therefore with more negative working models of self) have been found to report greater feelings of emotional jealousy in their interpersonal experiences (e.g., Hazan & Shaver, 1987; Guerrero, 2005; Marazziti et al., 2010), feelings argued to stem from uncertainty and lack of confidence in the strength of the current relationship (e.g., Knobloch, Solomon, & Cruz, 2001). Such individuals' negative working models of self as unworthy of love produces the feelings of insecurity over their partners' regard as well as hypervigilance to signs of partner availability and rejection. As such, highly anxious individuals' relationship experiences have been found to be characterised by both emotional highs and lows (Hazan & Shaver, 1987). As earlier highlighted, high-anxiety individuals' negative affective and cognitive reactions to partner behaviours that do not meet their unrealistic relationship expectations (Simpsons & Rholes, 2004) and hence perceived as potential rejection would produce feelings of discontent. However, their positive reactions to perceived partner acceptance would produce feelings of happiness also (Shaver & Mikulincer, 2003, as cited in Mikulincer & Shaver, 2005). It is argued here therefore that this combination of both emotional highs from perceived acceptance and lows from perceived rejection, as well as negative model of self in which partner regard of worth and lovability are questioned, contribute to feelings of relational uncertainty and therefore should produce greater tendency to use social comparisons to evaluate partner and relationship quality.

With regards to attachment avoidance, the opposite tendency was anticipated, that is, greater avoidance would predict lesser tendency to compare partners and

relationships with others. Although research has identified avoidance to be associated with greater relationship insecurity (argued to be indicative of uncertainty (Smith LeBeau & Buckingham, 2009), it is argued that the defensive disregarding and downplaying of relational processes and experiences (see Mikulincer & Shaver, 2005, for review) that is characteristic of high avoidance (resulting from discomfort with closeness and intimacy) would produce a lesser desire and need to engage in social comparison. Indeed, the lesser interpersonal orientation discussed earlier within the broader context of general comparisons between the self and other is applicable here also.

Taken altogether, Hypothesis 1 put forward:

Hypothesis 1: Greater attachment anxiety will predict greater relationship comparison orientation, while greater attachment avoidance will predict lesser relationship comparison orientation.

It should be noted that the hypothesised prediction for attachment avoidance seems to counter the findings of Smith LeBeau and Buckingham (2009) in which both increased anxiety and avoidance were associated with higher scores on their relationship social comparison measure and so perhaps the associations anticipated here should be reframed to reflect these earlier findings. However, to predict increased partner and relationship comparison tendencies would conflict with the above theorising and hence the hypothesis was formed as is.

The next focus of empirical examination in the current study was on specific partner and relationship qualities that were investigated in Study 3 and incorporated into the PRSCM measure created in Study 4A. Partner warmth-trustworthiness is defined by characteristics such as reliable, understanding, and honest, while relationship intimacy-loyalty is defined by characteristics such as loyalty, respect, and trust, characteristics that were argued to be highly appealing to anxious individuals and less appealing to avoidant individuals. The interaction between anxiety and avoidance was identified to significantly predict both partner warmth-trustworthiness and relationship intimacy-loyalty, suggesting that high-avoidance individuals (that is, those fitting into dismissing- and fearful-type attachment classifications) indeed reported placing lesser importance on these traits than their low-avoidance counterparts. In examining the anxiety and avoidance dimensions included in the regression models testing the warmth-

trustworthiness and intimacy-loyalty traits however, while greater avoidance was identified to predict a lesser endorsement of the importance of such qualities (Study 3), anxiety was not found to be significantly predictive.

For avoidance then, due to both lesser inclination to engage in relationship comparisons and perceived lesser importance of partner warmth and trustworthiness and relationship intimacy loyalty, it was reasoned that high-avoidance individuals would report a decreased tendency to compare this partner trait. On the basis of the greater relational uncertainty that is argued to characterise high-anxiety individuals, however, it was reasoned that, despite high-anxiety individuals reporting no greater perceived importance of partner warmth-trustworthiness and relationship intimacy-loyalty than their low-anxiety counterparts, such individuals' insecurities and uncertainties regarding their relationships generally would produce a greater tendency to compare this partner trait.

Although neither partner fun nor physical attractiveness were found to be significantly predicted by attachment anxiety in Study 3, it was anticipated that the earlier described relationship uncertainty would produce greater tendencies to draw comparisons between one's own partner and relationship with others' with regards to these two traits. On this basis also, anxiety was further anticipated to predict greater tendency to engage in comparisons relating to each of the additional remaining partner and relationship qualities (that is, partner success and relationship passion). Conversely, greater attachment avoidance was anticipated to replicate the above hypothesised patterns for warmth-trustworthiness and intimacy-loyalty; as such, Hypothesis 2 read as:

Hypothesis 2: Greater attachment anxiety will predict greater tendencies to compare partner warmth-trustworthiness, fun, physical attractiveness, and success, and relationship intimacy-loyalty and passion qualities, while greater attachment avoidance will predict lesser tendencies to engage in partner warmth-trustworthiness, partner fun, and physical attractiveness comparisons, as well as relationship intimacy-loyalty and passion.

Consistent with Study 2A in which tendencies to make general upward and downward comparisons were examined, it was anticipated in the current study that anxiety would be predictive of tendency to engage in comparisons with perceived desirable relationships but not tendency to compare with perceived undesirable

relationships. As avoidance was predictive of neither upward nor downward general comparison tendencies, it was anticipated that, within an interpersonal-specific context, a similar pattern would emerge. Hypothesis 3 therefore read as:

Hypothesis 3: Greater attachment anxiety will predict greater upward relationship comparison orientation.

The next focus in the current study was on examining anxiety- and avoidance-based differences in tendencies to identify with and contrast from upward and downward relationship targets. To summarise the findings of Study 2A, anxiety was found to significantly predict upward contrast, downward identification, and downward contrast tendencies, while avoidance was found to predict downward contrast only. Upward contrast and downward identification were indeed indicative of the general negative cognitive bias that has been described as characterising high-anxiety individuals and so the results together for attachment anxiety appeared to suggest that while anxiety is characterised by a general tendency to compare the self with others, that much of this tendency itself is characterised by a focus on information that may be adverse to personal well-being.

It was reasoned for the current study that the pattern of findings that emerged within Study 2A would be evidenced here also. That is, it was anticipated that high-anxiety individuals would demonstrate a similar negative cognitive bias in their comparisons by focusing on that which differs between their own relationships and perceived desirable others (i.e. upward contrast) and that which is similar between their relationships and perceived undesirable others (i.e. downward identification). Similarly for attachment avoidance, it was anticipated that the patterns that were identified in Study 2A would be demonstrated here also, such that as avoidance increases, tendency to contrast from perceived less desirable relationships would increase. Although this finding was counterintuitive with the psychological mechanisms accounting for this finding unclear, it was believed that the tendencies regarding general social comparisons would be relevant to comparison tendencies made within the more interpersonal context examined in the current study. As such, Hypothesis 4 read as:

Hypothesis 4: Greater attachment anxiety will predict a greater tendency towards upward contrast, downward contrast, and downward identification relationship

comparisons. Greater attachment avoidance will predict greater tendencies for downward contrast comparison tendency.

The final focus in the current study, and thus the focus of the final two hypotheses, was on examining the identified differences in identification and contrast as potential mediators between attachment dimensions and relationship satisfaction and well-being factor life satisfaction.

The results of Study 1B confirmed the associations between anxiety and avoidance and relationship satisfaction that have been well established within the adult attachment literature. To recapitulate, Study 1B revealed that both increases in anxiety and avoidance predicted decreases in relationship satisfaction. The two-way interaction term also significantly predicted relationship satisfaction, suggesting that individuals fitting a secure attachment classification reported the highest satisfaction, followed by dismissing- and preoccupied-type individuals, with fearful-type individuals reporting the lowest relationship satisfaction. Within the discussion of these results, it was suggested that contributory causes for these differences in satisfaction with current relationship experiences was due to differences in comfort with intimacy (and related disclosure and support-seeking and provision), conflict resolution strategies, and actualisation of relationship goals resulting from working models of self and other. It is put forward here that an additional source for the differing experiences of relationship satisfaction could be found in differences in comparison tendencies. For example, if the anticipated adverse associations regarding anxiety within Hypothesis 4 is supported (that is, greater tendencies toward upward contrast and downward identification), one would expect the information gleaned in these ways to impact upon the feelings of relationship satisfaction. For the high-anxiety individual who attends to comparison information that produces perceptions that own relationships have similarities to perceived undesirable other relationships and differ from perceived desirable ones, that the own relationships will be viewed poorly in these comparisons should influence the level of satisfaction felt regarding their quality. As such, it was hypothesised:

Hypothesis 5: Upward contrast and downward identification will partially mediate the association between attachment anxiety and relationship satisfaction.

Lastly, as indicated above, the potential role of identification and contrast for the association between anxiety and life satisfaction was examined. The findings of Study 1A revealed anxiety to be significantly predictive of life satisfaction ratings, such that as anxiety increases, life satisfaction decreases. High-anxiety individuals' negative models of self as unworthy of love, negative biases regarding interpersonal interpretation, emotional reactivity producing a greater frequency and intensity of negative affect, maladaptive cognitive processing of negative events (specifically, rumination), and unrealistic conditions in attaining happiness in their relationships with well-being too heavily placed upon actualising these conditions were all suggested as contributory mechanisms for this association. Similar to the above-hypothesised partial mediations for anxiety and relationship satisfaction, it is further suggested here that the anticipated adverse relationship comparisons (that is, upward contrast and downward identification) will partially mediate the association between anxiety and life satisfaction.

As suggested above, previous theorising within the adult attachment literature has put forward that high-anxiety individuals may place much importance on their interpersonal experiences for their feelings of subjective well-being (Simpson & Rholes, 2004). The findings of Study 1A examining attachment-based differences in life satisfaction when moderated by relationship status were supportive of this: low-anxiety secure-type individuals' ratings of life satisfaction did not differ regardless of whether they were in a relationship or not, while high-anxiety fearful- and preoccupied-type individuals' ratings did differ, with those in relationships reporting higher life satisfaction than their single counterparts. These results were argued here to represent high-anxiety individuals placing greater importance on being in a relationship for their judgments on the overall quality of their lives (and thus consistent with the theoretical arguments put forward by Simpson and Rholes (2004)). In keeping with the above then, it was anticipated that the adverse relationship judgments that would result from tendencies to contrast from desirable and identify with undesirable relationships would partially contribute towards high-anxiety individuals' ratings of lesser satisfaction with life (and conversely, that low-anxiety individuals' lesser tendencies to engage in such adverse comparisons would contribute towards their increased life satisfaction ratings). As such, the final hypothesis for Study 4 was:

Hypothesis 6: Upward contrast and downward identification relationship comparisons will mediate the association between attachment anxiety and well-being (life satisfaction).

Method

Participants

265 participants took part in the current study, 204 (77.0%) of whom were female and 61 (23.0%) were male. Age ranged from 18 to 69 ($M = 36.08$, $SD = 10.51$). The vast majority of participants resided in the United Kingdom (115, 43.4%) and United States (77, 29.1%) with the remaining sample being spread internationally. Two hundred and forty (90.6%) identified themselves as heterosexual, 7 (2.6%) as homosexual, 17 (6.4%) as bisexual, and 1 (0.4%) as “Other”. Fifty-five (20.8%) participants identified the nature of their relationship as one of together and not co-habiting, 66 (24.9%) as co-habiting, 13 (4.9%) as engaged, and 131 (49.4%) as married. Relationship length ranged from 1 month to 42 years 9 months ($M = 104.1$ months, $SD = 103.5$ months).

Measures

Demographic Questionnaire. As in previous studies, participants were asked to complete a demographic questionnaire. Questions included those of gender, age, countries of residence and origin, relationship status, sexual orientation, and length of relationship if applicable (in years and months).

Adult Attachment. Participants’ attachment orientations were measured in the same way as in previous studies using the Experiences in Close Relationships – Revised scale (Fraley et al., 2000). Cronbach’s alpha was .92 for anxiety and .93 for avoidance.

Social Comparison. Participants’ relationship social comparison tendencies were measured using the Partner and Relationship Social Comparison Measure (PRSCM) created in Study 4A. Item responses are in Likert-type format in which participants are required to rate the extent to which they feel they engage in the behaviour described by each item (from 1 “Never” to 5 “Always”). Cronbach’s alpha was .96.

In order to examine differences in relationship comparison direction, Butzer and Kuiper’s (2006) upward (COMPU) and downward (COMPD) social comparison scales were utilised. In their original formats, each scale consists of Likert-type six items in which respondents must indicate the extent to which they engage in the behaviour being described (e.g., “When I consider how I am doing socially (e.g., social skills, popularity), I compare with others who are more socially skilled than I am”, “When I consider how good I am at something, I compare myself with others who are worse at it

than I am”). The items were modified to reflect a romantic relationship-oriented focus (e.g., “When I consider how satisfied I am in my relationship, I think of other relationships that are worse than mine”, “When I consider how good my relationship is, I think of other couples whose relationships I feel are better than mine”. Cronbach’s alpha was .93 for upward relationship comparisons and .92 for downward.

Next, in order to examine differences in identification and contrast relationship comparisons, Van der Zee et al.’s (1999, 2000) identification/contrast scales were adapted in a similar way to the COMPUP and COMPD scales above to reflect a romantic relationship-oriented focus. A principal components factor analysis with varimax rotation confirmed a 4-factor solution (accounting for 79.61% of the variance) in keeping with the conceptualised upward/downward identification/contrast comparisons. Example items for upward identification include “When I see other couples who are very happy in their relationship, I feel good about my own relationship” ($\alpha = .87$); for upward contrast “When I see other relationships that appear to be doing better than my own, it is threatening to notice that mine is not doing as well” ($\alpha = .89$); for downward identification “When I see others who are having problems in their relationships, I worry that my partner and I could experience problems also” ($\alpha = .88$); and for downward contrast “When I compare my relationship to others that appear to be not as good as mine, I feel happy and pleased about my own relationship” ($\alpha = .80$).

Life Satisfaction. Diener et al.’s (1985) Satisfaction with Life Scale (SWLS) was used to assess participants’ evaluations of their satisfaction with their lives. Cronbach’s alpha was .91.

Self-esteem. Self-esteem was assessed using the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Cronbach’s alpha was .91

Relationship Satisfaction. Relationship satisfaction was measured using Buunk et al.’s (2001) 4-question measure utilised previously (see Study 1). Cronbach’s alpha was .97

Procedure

As in previous studies, participants could access the current study via the University’s web pages. Participants provided online consent to take part and completed each of the above listed measures in a fixed order. Upon completion, participants were presented with a final webpage detailing the aims of the study and providing information on the measures included.

Results

Hypothesis 1 predicted that greater attachment anxiety would predict greater relationship social comparison orientation, while greater attachment avoidance would predict the opposite. A total relationship social comparison orientation variable was created in which a mean of all items was calculated, which was then regressed onto anxiety and avoidance at the first step and their interaction term at the second. The overall model was significant ($F = 11.38$ (3, 264) $p < .001$) and accounted for 10.6% of the variance (Adjusted R^2). Both attachment anxiety ($\beta = .38$, $p < .001$) and avoidance ($\beta = -.14$, $p < .05$) were significant predictors of relationship social comparison orientation (their interaction was non-significant), supporting Hypothesis 1. As anxiety increases, so too does the tendency to engage in interpersonally-oriented comparisons while as avoidance increases, the tendency to engage in such comparisons decreases.

Hypothesis 2 predicted differences in partner- and relationship-related comparisons, specifically greater anxiety predicting greater tendency to compare partner qualities reflective of warmth-trustworthiness and intimacy-loyalty as well as relationship quality passion, and greater avoidance predicting decreased tendencies to engage in the above comparison types as well as partner fun and physical attractiveness. Each of the four partner and two relationship comparison types were separately regressed onto anxiety, avoidance and their interaction term to test Hypothesis 2.

The model for partner Warmth-Trustworthiness was significant ($F = 10.75$ (3, 262) $p < .001$), accounting for 10.0% of the variance (Adjusted R^2). Attachment anxiety ($\beta = .35$, $p < .001$) and avoidance ($\beta = -.20$, $p < .01$) were both significant predictors while their interaction was not. As anxiety increases, the tendency to compare partner qualities capturing warmth and trustworthiness increases, while as avoidance increases, such a tendency decreases.

Next, partner Fun was entered as the dependent variable. The model was significant ($F = 6.33$ (3, 262) $p = .001$) and accounted for 5.7% of the variance. Here, only attachment anxiety was a significant predictor ($\beta = .29$, $p < .001$), suggesting that as anxiety increases, the tendency to compare how fun one's partner is to other people's partners increases also.

The model for partner Physical Attractiveness was also significant ($F = 5.87$ (3, 262) $p < .001$, Adjusted $R^2 = .05$), with attachment anxiety as the sole significant predictor ($\beta = .26$, $p < .001$). Similar to partner Fun, as anxiety increases, the tendency to compare how attractive one's romantic partner is also increases.

The model for the final partner comparison factor, Success, was also significant ($F = 7.81$ (3, 262) $p < .001$, Adjusted $R^2 = .07$). Attachment anxiety ($\beta = .30$, $p < .001$) was a significant predictor, however avoidance was not; the interaction term was approaching significance ($\beta = -.12$, $p = .06$; R^2 change = .01, F change = 3.45, $p = .06$). Figure 33 presents the emerging trends.

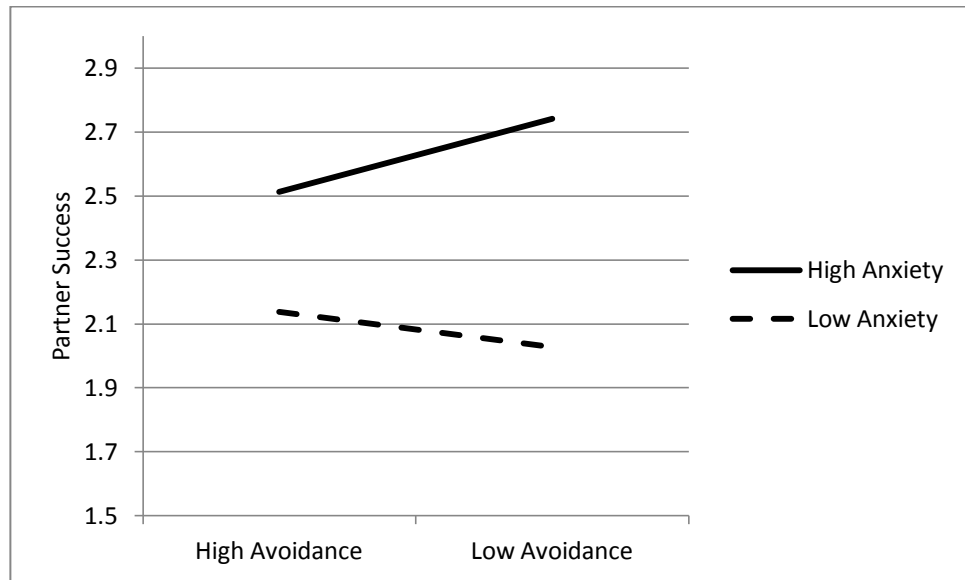


Figure 33. Anxiety and Avoidance as Predictors of Partner Success Social Comparisons

As is indicated in the above figure, it appears that individuals fitting preoccupied- and fearful-type attachment classifications reported greater tendencies to compare their romantic partners' success with other partners' success, suggesting that the main dimension driving individuals' partner success comparisons is anxiety. However, as indicated above, the interaction between anxiety and avoidance was only approaching significance and so the above figure should be interpreted with this in mind.

Focusing on what was identified as a significant predictor then, the results of analyses suggest that for partner qualities that capture a romantic partner's success, as an individual's feelings of attachment anxiety increase, their tendency to engage in comparisons concerning this partner quality increases also.

Next, comparisons focusing on relationship qualities were examined. Relationship Intimacy-Loyalty was entered as the dependent variable, with anxiety and avoidance (first step), and their interaction term (second step) entered into the regression equation. The overall model was significant ($F = 6.08$ (3, 262) $p = .001$) and accounted for 5.5%

of the variance (Adjusted R^2). Both anxiety ($\beta = .26, p < .001$) and avoidance ($\beta = -.14, p < .05$) were significant predictors; the interaction term however was not. As attachment anxiety increases, tendency to compare relationship qualities that encapsulate relationship intimacy and loyalty qualities increase, while as avoidance increases, tendency decreases.

Lastly, the model for Passion was significant ($F = 11.10 (3, 262) p < .001$) and accounted for 10.3% of the total variance (Adjusted R^2). Attachment anxiety ($\beta = .38, p < .001$) and avoidance ($\beta = -.17, p = .01$) were both significant predictors with the beta coefficients suggesting that as anxiety increases, and avoidance decreases, tendency to compare qualities suggestive of relationship passion increase.

Hypothesis 3 predicted that as attachment anxiety increases, so too will the tendency to engage in upward comparisons (that is, comparisons to relationships perceived as better off). Attachment avoidance was not hypothesised to predict differences in comparison direction.

Upward comparison was regressed onto anxiety, avoidance (first step) and its interaction term (second step); the overall model was significant ($F = 16.81 (3, 252) p < .001$, Adjusted $R^2 = .16$). Attachment anxiety was revealed to be the sole significant predictor of upward comparison ($\beta = .41, p < .01$), suggesting that as anxiety increases, so too does the tendency to engage in comparison to perceived better-off relationships.

Next, downward comparison was examined. The model (that is, anxiety, avoidance, and their interaction term) was significant ($F = 5.13 (3, 252) p < .01$) and accounted for 3.6% of the variance (Adjusted R^2). Both attachment anxiety ($\beta = .18, p = .01$) and avoidance ($\beta = -.22, p < .01$) were significant predictors (their interaction, however, was not). As anxiety increases, and avoidance (independently) decreases, tendency to engage in comparisons with perceived worse-off relationships increases. Hypothesis 3 was therefore only partially supported

Hypothesis 4 focused on examining attachment-based differences in identification and contrast. Specifically it was hypothesised that greater anxiety would predict a greater tendency towards upward contrast and downward identification relationship comparisons while, consistent with the findings of general identification/contrast comparisons identified in Study 2, avoidance was hypothesised to predict downward contrast only. Each of the four upward/downward identification/contrast comparison tendencies were entered separately as dependent variables to be regressed onto anxiety, avoidance, and their interaction term.

First, the model predicting upward contrast was significant ($F = 21.55 (3, 262) p < .001$), accounting for 19.1% of the variance (Adjusted R^2). Both attachment anxiety ($\beta = .37, p < .001$), and avoidance ($\beta = .15, p < .05$) were significant predictors of upward contrast, suggesting that as anxiety and avoidance increase, the tendency to contrast from perceived better-off relationships increases also.

The model for downward identification was also significant ($F = 16.16 (3, 262) p < .001$, Adjusted $R^2 = .15$). Neither attachment avoidance nor the anxiety*avoidance interaction were significant predictors of tendency to identify with perceived worse-off relationships, however anxiety was a significant predictor ($\beta = .41, p < .001$), suggesting that as anxiety increases, so too does the tendency to identify with downward relationship targets.

The next model for upward identification was significant also ($F = 14.41 (3, 262) p < .001$) and accounted for 13.3% of the variance (Adjusted R^2). Attachment avoidance alone was identified as a significant predictor ($\beta = -.40, p < .001$), suggesting that as avoidance increases, tendency to identify with perceived better-off relationships decreases.

Lastly, the model for tendency to engage in downward contrast relationship comparisons was significant ($F = 11.09 (3, 262) p < .001$) with an Adjusted R^2 of .10. While the anxiety*avoidance interaction was not significant, anxiety ($\beta = .19, p = .01$) and avoidance ($\beta = -.38, p < .001$) were both independent significant predictors, with increases in the former predicting an increased tendency, and increases in the latter predicting decreased tendency.

Hypothesis 5 predicted identification and contrast comparisons to partially mediate the association between attachment and relationship satisfaction. Before examining this potential association, relationship satisfaction itself was examined. Relationship satisfaction was regressed onto the attachment dimensions (first step) and their interaction (second step), the results of which are presented in Table 43.

Table 43. Adult Attachment as Predictor of Relationship Satisfaction

Attachment	B	SE B	β	R^2 Change	F of Change
Anxiety	.01	.07	.01		
Avoidance	-.84	.07	-.64***	.34	66.79***
Anxiety*Avoidance	.19	.04	.22***	.06	18.91***

* $p < .05$

*** $p < .001$

The overall model was significant ($F = 53.88 (3,262) p = <.001$) and accounted for 37.5% of the variance (Adjusted R^2). Surprisingly, and inconsistent with previous research, anxiety was not predictive of relationship satisfaction within the model, while avoidance was. The interaction term was also a significant predictor and is presented in Figure 34.

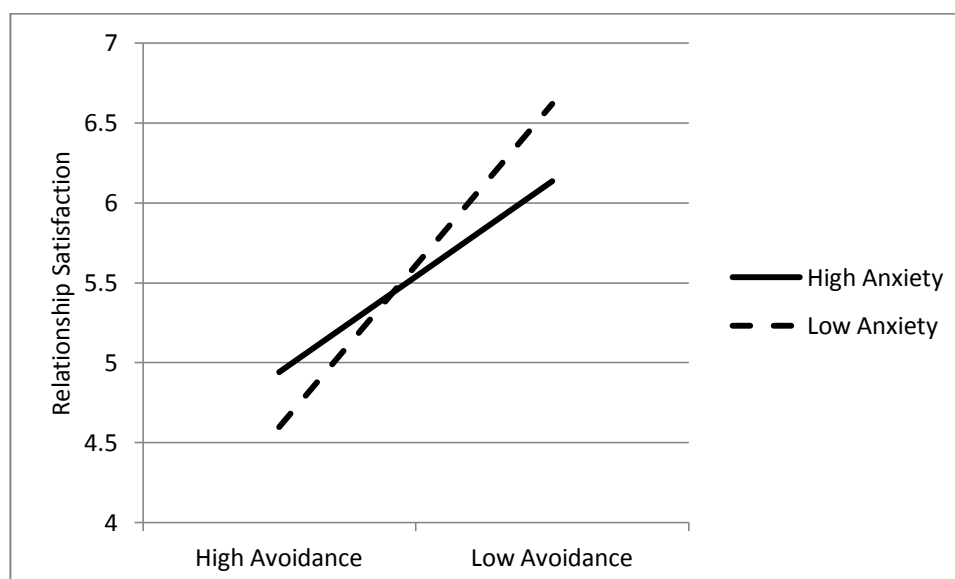


Table 34. Attachment Anxiety and Avoidance as Predictors of Relationship Satisfaction

Table 44. Simple Slopes Analyses for Attachment and Relationship Satisfaction

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	2.79*
Secure and Preoccupied	-2.18
Fearful-avoidant and Preoccupied	-7.88**
Secure and Dismissing-avoidant	-11.20***

* $p < .05$

** $p < .01$

*** $p < .001$

Individuals fitting a secure attachment classification (low anxiety/avoidance) reported the highest relationship satisfaction, while individuals fitting a dismissing (low anxiety/high avoidance) reported the lowest, with fearful-type individuals (high anxiety/avoidance) reported intermediate satisfaction. Simple slopes analyses revealed only the trajectories of secure and preoccupied to non-significantly differ from one another.

Establishing the associations between attachment and relationship satisfaction, the potential for partial mediations was next examined. As discussed in Study 2, according to Baron and Kenny (1986), four conditions must be satisfied in order to establish the existence of mediations: the independent variable must significantly predict the dependent variable; the independent variable must significantly predict the mediating variable; the mediating variable must predict the dependent variable when both the independent and mediating variables are predictors; and, after adding the mediating variable, the relationship between the independent variable and the dependent variable must either reduce (partial mediation) or become non-significant (total mediation).

First, attachment anxiety and relationship satisfaction were examined, with upward contrast tendency the first to be tested for. Attachment anxiety was entered into the regression equation to examine its direct predictive value for relationship satisfaction; anxiety was indeed a significant predictor ($\beta = -.22$, $p < .001$), thus meeting the first condition for mediation. The condition was also met, with anxiety significantly predicting the mediating variable upward contrast ($\beta = .43$, $p < .001$). The third and fourth conditions were also met; when both anxiety and upward contrast were entered into the regression equation, the latter remained significant. Examination of the beta for anxiety revealed a reduction did indeed occur; the beta for anxiety was close to zero and became non-significant, suggesting that for the current sample, upward contrast is a mediator for the association between attachment anxiety and relationship satisfaction (with Sobel tests confirming the reduction to be significant ($t = -5.00$, $p < .001$)). Put another way, it is high-anxiety individuals' greater tendency to contrast their relationships from those perceived as superior that contributes to their decreased relationship satisfaction. Conversely, it is therefore low-anxiety individuals' lesser tendency to engage in such unfavourable comparisons that contributes to their increased relationship satisfaction. Figure 35 presents the mediation.

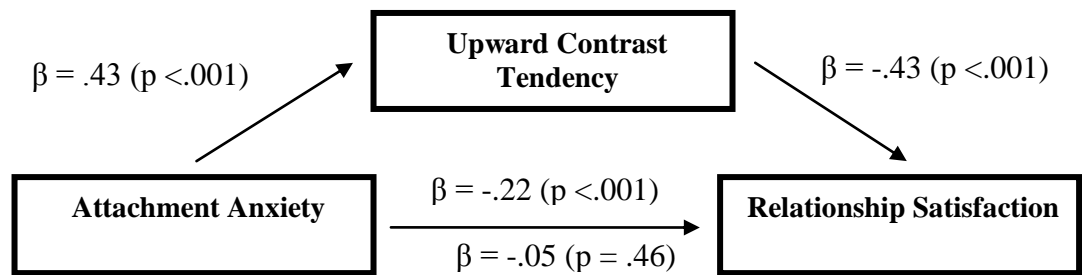


Figure 35. Upward Contrast as a Mediator between Anxiety and Relationship Satisfaction

Next, each of downward contrast, downward identification, and upward identification were examined for their potential as full or partial mediators. For each, the above steps suggested by Baron and Kenny (1986) were carried out; while downward identification and contrast did not meet the outlined conditions for mediation, the results of regression analyses revealed upward identification as a partial mediator (supported by Sobel test confirmation, $t = -1.99$, $p = .05$). Figure 36 presents the results visually.

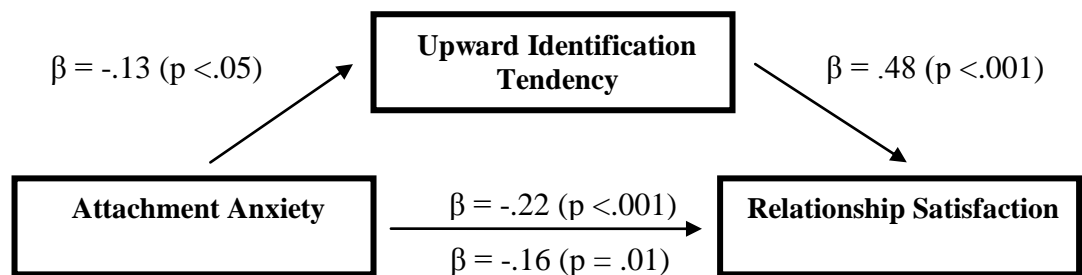


Figure 36. Upward Identification as a Mediator between Anxiety and Relationship Satisfaction

Interpreted within a high/low anxiety context, the above partial mediation analysis suggests that high-anxiety individuals' lesser tendency to identify their current relationship with those perceived as desirable contributes towards their decreased relationship satisfaction, while the opposite tendency reported by low-anxiety individuals contributes to their increased relationship satisfaction.

Potential mediations were next examined for the association between attachment avoidance and relationship satisfaction. However, for each of the four identification and contrast social comparison tendencies, the criteria put forward by Baron and Kenny

(1986) were not met and so differences in the above social comparison tendencies were revealed not to contribute as mediators.

The next focus was on well-being factor life satisfaction. Before examination of potential mediators could commence, the direct predictive value of attachment dimensions was explored. Anxiety, avoidance and their interaction term were entered into the regression equation (the former two at the first step and the latter one at the second) with life satisfaction as the dependent variable. The results are presented in Table 45.

Table 45. Adult Attachment as Predictor of Life Satisfaction

Attachment	B	SE B	β	R ² Change	F of Change
Anxiety	-1.32	.35	-.23***		
Avoidance	-2.37	.38	-.38***	.20	32.46***
Anxiety*Avoidance	1.02	.24	.24***	.05	18.92***

* $p < .05$

*** $p < .001$

The overall model was significant ($F = 29.43$ (3, 264) $p < .001$) accounting for 24.4% of the variance (Adjusted R^2). The results presented in Table 47 suggest that as anxiety and avoidance independently increase, life satisfaction decreases. With the interaction being identified as a significant predictor also, the slopes were plotted and are presented visually in Figure 37.

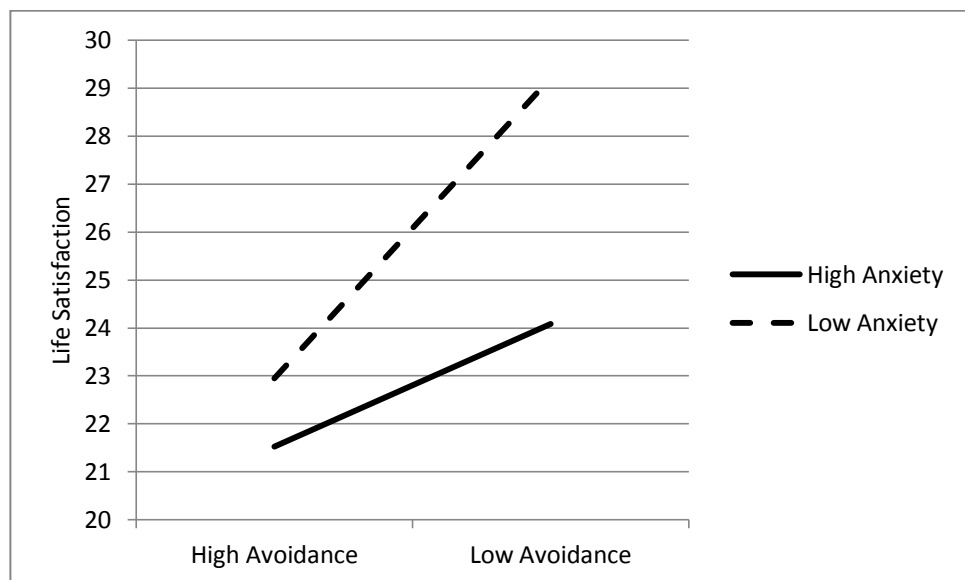


Figure 37. Attachment Anxiety and Avoidance as Predictors of Life Satisfaction.

Table 46. Simple Slopes Analyses for Attachment and Life Satisfaction

Slopes Differences	t
Fearful-avoidant and Dismissing-avoidant	-.66*
Secure and Preoccupied	-5.18**
Fearful-avoidant and Preoccupied	-2.97*
Secure and Dismissing-avoidant	-7.04**

* $p = / < .05$

** $p < .01$

Consistent with previous findings, individuals fitting the secure attachment classification reported the greatest life satisfaction. However, slight variation was revealed in life satisfaction reported across the insecure ‘groups’; preoccupied-type individuals reported the next greatest life satisfaction followed by dismissing-type and lastly fearful-type individuals. Slopes analyses revealed the trajectories to significantly differ from one another (see Table 46).

The first comparison tendency to be examined as a mediator between anxiety and life satisfaction was upward contrast. Following the steps of regression analyses outlined by Baron and Kenny (1986) revealed upward contrast as a partial mediator (with Sobel tests serving to confirm the significance of this partial mediation, $t = -3.70$, $p = <.001$). Figure 38 presents these results visually.

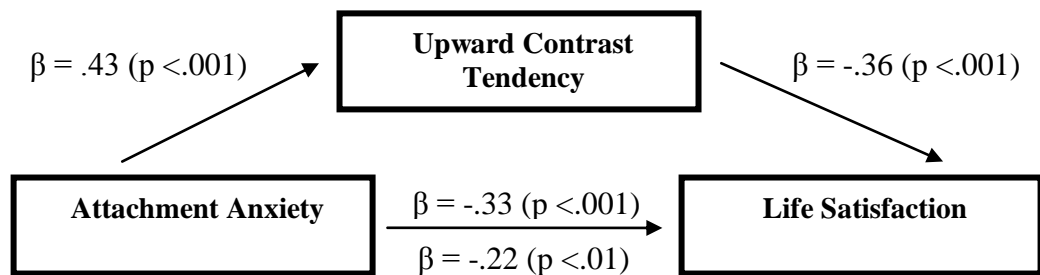


Figure 38. Upward Identification as a Mediator between Anxiety and Relationship Satisfaction

Interpreted within a high/low anxiety context, the above partial mediation suggests that high-anxiety individuals’ greater tendency to see the differences between perceived desirable relationships and their own (that is, perceiving their own romantic relationship as worse-off) contributes to their lower satisfaction with life. High-anxiety individuals’ lesser tendency to engage in such adverse romantic relationship comparisons meanwhile contributes towards their increased life satisfaction.

Examination of each of the remaining three identification/contrast comparison tendencies revealed no further full or partial mediations between anxiety and life satisfaction nor for avoidance and life satisfaction.

Discussion

The purpose of the current study was to examine differences in the nature of comparisons individuals engage in based on attachment anxiety and avoidance. While Study 2A examined differences in general social comparisons, the current study aimed its examination to a specific interpersonal context, that is, to examine the nature of the relationship and partner social comparisons individuals tend to make, as well as differences in tendencies to compare current relationships to perceived desirable or undesirable others and finally whether there are differences in tendency to contrast or identify with these comparison others.

The first set of analyses was carried out examining general relationship social comparison orientation and found that as anxiety increases, tendency to compare one's own relationship to others increases also, while as avoidance increases, tendency to compare decreases. This finding was consistent with hypotheses that put forward that high-anxiety individuals' greater relational uncertainty and more negative models of self would account for a greater need or desire to compare partner characteristics, the quality of their relationship, and the nature of the interactions experienced therein. What is particularly interesting about the finding of increasing avoidance predicting decreasing relationship social comparison tendency is that this finding contradicts Smith LeBeau and Buckingham's (2009) finding of increasing avoidance correlating with increasing tendency. Although the measure used in the current study differs to that utilised in Smith LeBeau and Buckingham's study, both share a small number of items (e.g., 'I compare how happy I am in my relationship to how happy I think others are in their relationships') while the PRSCM used in the current study included items examining specific partner and relationship qualities. However, these slight differences are unlikely to account for the opposite trends emerging for attachment avoidance since both measures examine the same construct. The theorising here for considering the nature of the anticipated association between avoidance and relationship comparison tendency put forward that discomfort with closeness and intimacy that characterises high avoidance would see a psychological distancing from interpersonal issues (that is, a lesser interpersonal orientation that Gibbons and Buunk (1999) described as being

characteristic of social comparison orientation) that in turn would produce the lesser tendency to engage in relationship-based social comparisons.

It may be then that the difference found between the two sets of results could be due to participant samples: the current sample was conducted online and was therefore a non-student sample with an age range of 18 to 69 (with a mean age of 36.08 years). Relationship length ranged from 1 month to nearly 43 years. The sample of Smith LeBeau and Buckingham's study was a student one and although no information was provided on age, it can be assumed that given its undergraduate basis, ages would be on average younger. Relationship length was also considerably shorter (3 months to 9 years with a median length of 18 months) and so the difference in findings may be a product of either of these factors. For example, it may be that in earlier stages of romantic relationships (which typically provide fewer opportunities for emotional intimacy that longer-term relationships allow), more avoidant individuals' defensive distancing from interpersonal experiences does not arise and their insecurity produces a greater tendency to compare. The emotional intimacy processes that characterise later stages of romantic relationships would be more likely to produce the defensive distancing in highly avoidant individuals and would account for the lesser attention given to interpersonal issues and hence lesser tendency to compare partner and relationship qualities. Future research would benefit from examining more directly the potential influence of relationship length on comparison processes.

The results of analyses examining comparisons of specific partner and relationship qualities were consistent with the patterns of general relationship comparison tendencies identified for anxiety; greater anxiety predicted increased tendencies to compare partner warmth-trustworthiness, physical attractiveness, and success, as well as relationship intimacy-loyalty and passion. That all factors apart from partner fun were revealed to come under greater comparative scrutiny in high-anxiety individuals highlights the insecurity and uncertainty such individuals feel regarding their interpersonal experiences. As Festinger (1954) stated it is in cases of uncertainty that the drive to evaluate self-qualities (in this instance, partner and relationship qualities) arises. That high-anxiety individuals appear to demonstrate a greater tendency to subject to comparative evaluation a broad range of qualities suggests that both their greater activation of working models (that is, hyperactivation of the attachment system) in which models of self and other are chronically accessible and more greatly salient to them, along with their relational uncertainty (argued to stem from both their negative

models of self of questionable lovability and hypervigilance to signs of rejection and acceptance producing emotional highs and lows when each are perceived) produces a vulnerability to seeing others' relationships not just for what they are but for what they indicate for their own interpersonal experiences.

The significance of this overall tendency to compare several partner and relationship qualities is emphasised when considered in conjunction with the findings of Study 3 examining partner and relationship ideal standards. Attachment anxiety was not found to significantly correlate with any of the partner and relationship ideal standards, with regression analyses further indicating attachment anxiety to not significantly predict any of the tested ideals. That high-anxiety individuals do not rate any of the tested for partner and relationship ideal standards to be more important to them than what low-anxiety individuals rate and yet still more often subject such standards to evaluation through social comparison emphasises that such greater tendencies to compare may be a maladaptive manifestation of the insecurities surrounding both their own lovability and their partners' regard of them. That is, social comparison may represent a further avenue for high-anxiety individuals to be vigilant to the signs of perceived rejection and acceptance by observing and comparing any apparent discrepancies or correspondences (even in facets that are not central to their relationship needs) between their own relationship experiences and that of others'.

The specific partner and relationship comparison tendencies reported on the basis of avoidance were similarly consistent with the finding concerning general relationship comparison tendency; greater attachment avoidance was found to be predictive of decreased tendency to compare partner warmth-trustworthiness as well as relationship intimacy-loyalty and passion. Although hypotheses predicted there to be a significant lesser tendency for all of the partner and relationship ideals, the findings that emerged from regression analyses did indicate at least consistency with the anticipated direction of the trends (that is, as avoidance increases, tendency to compare decreases) and overall reinforces the general theoretical contention within the adult attachment literature that greater avoidance is associated with a distancing from interpersonal involvement. It remains unclear why greater avoidance would not significantly predict partner success and physical attractiveness but would do so for partner fun. Partner warmth-trustworthiness and relationship intimacy-loyalty and passion each capture qualities indicative of greater emotional intimacy within a romantic relationship (identified in Study 2A to be of lesser importance for high-avoidance individuals) and so that they

would be subjected to social comparison less is intuitive both on the basis of high avoidance being characterised by a lesser interpersonal orientation and that such qualities should be unappealing (indeed to the extent of giving rise to feelings of discomfort if experienced) and therefore afforded less cognitive attention.

The next focus of analysis was on comparison direction, namely whether there were any attachment-based differences in tendency to compare to perceived desirable relationships or perceived undesirable relationships. The results indicated that as anxiety increases, tendency to compare with upward targets increases while as both anxiety and avoidance (independently) increase, the former predicts increase and the latter predicts decrease in tendency to compare downward. Although observing merely comparison direction does not indicate what information is gleaned (examined later through consideration of identification and contrast), that high-anxiety individuals demonstrate greater tendencies to look to both upward and downward targets when evaluating the quality of their relationships is consistent with the earlier proposition that high-anxiety individuals' hyperactivation of the attachment system and their associated hypervigilance to signs of acceptance and rejection leaves them vulnerable to comparison information from varying sources. Indeed the variety inherent with greater tendencies to compare both upward and downward is consistent with the arguments and findings of Smith LeBeau and Buckingham (2009) that encountering both upward and downward relationship comparison information should be associated with greater relational uncertainty because of the differences in positivity and negativity in the information both types of sources present.

The finding for attachment avoidance regarding downward comparison (that is, as avoidance increases, tendency to engage in comparisons with perceived undesirable relationships decreases) may be indicative of highly-avoidant individuals' suggested general lesser tendency to engage in social comparisons. Why highly-avoidant individuals would demonstrate a lesser tendency to engage in downward but not for upward comparison remains at present unclear but a possibility could be that such tendency to not cognitively attend to perceived undesirable relationships may be a manifestation of their defensive nature (that is, turning attention away from perceiving unpleasant relationship experiences, even those of others). However, that the findings of Study 2A did not appear to indicate such defensive comparison patterns (that is, in the differences reported in direction and identification and contrast) does not support this. These earlier findings do not rule out this possibility though, as comparisons within a

specific interpersonal context may be more likely to give rise to highly-avoidant individuals' defensiveness regarding their relationships.

However, regarding the directional tendencies found in the current study, it is interesting to note that the current findings of tendencies towards relationship comparisons differed to the findings of Study 2A of general social comparisons: for general comparisons only a single significant finding emerged, that of as anxiety increased, tendency to engage in upward comparison increased also. For relationship-based social comparisons, anxiety was significantly predictive of both upward and downward relationship comparisons, while avoidance was significantly predictive of downward comparison. For general comparisons, it was reasoned that a major psychological contributor to determining the direction of social comparison made on the basis of attachment was the extent to which an individual perceives themselves positively or negatively (that is, determined by their internal working models of self), that is, more greatly determined by feelings of attachment anxiety. That both anxiety and avoidance were predictive of upward and downward comparisons suggests attachment avoidance to play a bigger contributory role within comparisons that focus specifically on partner and relationship qualities than for general social comparisons. Although much has been discussed here on the theoretical contention of greater attachment anxiety being characterised by a negative cognitive bias, it should be highlighted that greater attachment avoidance may be considered as demonstrating a negativity in bias also and so might be a contributor to the current observed findings. As greater attachment anxiety is indicative of negative working models of self as unlovable, greater attachment avoidance is considered indicative of negative working models of other as untrustworthy and unresponsive to needs (as based on work by Bartholomew and Horowitz (1991)). As such, that the current study demonstrated attachment avoidance to exert a greater predictive influence on relationship comparison outcomes (not just in direction but in identification and contrast to be discussed below) suggests that the attachment mechanisms that influence relationship-focused comparisons originate not only from just the working models themselves (as suggested for general comparisons) but with the *activation* of those models.

In their study examining self-activation and social comparison, Stapel and Tesser (2001) found that activation of self-constructs led to greater desire to engage in social comparison (that is, subsequent higher social comparison orientation scores). On this basis then it was highlighted earlier here that high-anxiety individuals' hyperactivation

of the attachment system produces greater salience of self and other models due to their chronic accessibility which may in turn lead such individuals to have a vulnerability to engage in social comparisons. Conversely, high-avoidance individuals' defensive suppression of the attachment system in which models of self and other are denied cognitive attention would lead to a lesser propensity to engage in social comparison. These differences in attachment system activation may account for the observed differences in tendencies to compare upwards and downwards and indeed for the differences in findings between the current study and Study 2A. The interpersonal focus surrounding individuals' internal working models (that is, model of self is not just perceptions of lovability but perceptions of lovability in the eyes of significant others, and model of other is not just perceptions of others' trustworthiness but of their anticipated responsiveness to the self's needs) may be why activation of attachment systems might contribute more to differences in relationship comparisons than general comparisons. It is working-model-activation and relationship comparison's shared interpersonal focus that is argued to link their observed associations. That is, it is the extent to which models of self and other are cognitively salient to individuals that serves as a contributory determinant in engaging in relationship comparison, and it is the extent to which cognitive bias is negative that provides direction for those relationship comparisons to be made.

The findings of analyses examining differences in identification and contrast are in keeping with the above theoretical contentions. While individuals high in attachment avoidance overall report a general tendency to compare their relationships with others' relationships less often, when they do compare, their tendencies are towards greater upward contrast (that is, more adverse comparisons) and lesser downward contrast and upward identification (that is, more favourable comparisons). For high-anxiety individuals, a greater tendency to compare own relationships with others overall is reported and of the comparisons made, their tendencies are towards greater upward contrast, downward identification, and greater downward contrast. Although downward contrast (that is, seeing the differences between the perceived undesirable relationships of others and one's own relationship) is a comparison type that should produce favourable own-relationship evaluations, the strength of the regression coefficient was much weaker when examined next to the coefficients of upward contrast and downward identification. Both observed patterns for each of anxiety and avoidance are generally consistent with the theoretical discussion above that both attachment-system activation

and negative cognitive biases may govern comparison tendencies, with the latter findings for attachment anxiety consistent with the theorising of Smith Le Beau and Buckingham (2009) that insecurity and uncertainty (that characterises this attachment orientation) may relate to a greater comparison tendency because of the greater amount of varying information (both from positive and negative sources) garnered.

As highlighted within the discussion of Study 2A, while the above results are informative in providing insight into anxiety- and avoidance-based relationship comparison profiles, a logical next step for future research examining the issue of upward and downward identification and contrast comparisons would be to examine how the gathered information is cognitively attended to, interpreted, integrated into existing self-knowledge schema and subsequently utilised. For example, although the results for attachment avoidance suggest individuals scoring highly in this orientation to demonstrate a negative bias in the comparison targets they typically compare against, as put forward in Study 2A, it may be that their cognitive response to this adverse information is in keeping with the defensive nature that characterises them. That is, their insecurity produces tendencies to be drawn to unfavourable comparison opportunities, but that same insecurity then produces a certain resilience in which defensive derogation of either the comparison source or information itself that ordinarily may give rise to negative self-quality (in this instance, romantic relationship) assessment. However, with the focus of the current study being on examination of the nature of comparisons individuals report typically making on the basis of anxiety and avoidance, this consideration of post-comparison cognitive interpretation is speculative and will require further empirical investigation in future research to ascertain what cognitive reactions may indeed take place.

The final focus of Study 4 was on the potential mediating roles of upward/downward identification/contrast comparison tendencies on both interpersonal well-being (relationship satisfaction) and subjective well-being (life satisfaction). Within Study 1 it was identified that as anxiety increases, relationship satisfaction and life satisfaction decreases (with similar findings revealed for avoidance also). Although the main reasons put forward accounting for this finding were based on high-anxiety individuals' negative models of self, negative biases regarding interpersonal interpretation and maladaptive conflict resolution strategies, the current study argued that a further contributory factor to the decreased relationship satisfaction reported in higher-anxiety individuals was due to the less favourable relationship comparisons they

report typically engaging in. That is, to more regularly compare one's own relationship unfavourably against perceived desirable others (or indeed perceived undesirable others also) would produce lower feelings of relationship satisfaction from the inferiority suggested within such a comparison. Furthermore, for life satisfaction, the theoretical arguments put forward by Simpson and Rholes (2004) suggested that for high-anxiety individuals, greater importance is placed on romantic relationship experiences (that are subjected to too-stringent and often unrealistic standards that actuality cannot meet) for feelings of subjective well-being. This too was supported by the finding of preoccupied- and fearful-type individuals reporting increased life satisfaction when in a relationship than when not (a pattern not replicated for their low-anxiety secure- and dismissing-type counterparts). As such it was anticipated that high-anxiety individuals' tendency to engage in unfavourable comparisons (and conversely low-anxiety individuals lesser tendency) would contribute towards and therefore partially account for their reporting of lower satisfaction with life.

The first finding of analyses examining the association between attachment anxiety and relationship satisfaction revealed that inclusion of upward contrast tendency as a potential mediating variable reduced the p value of the anxiety/relationship satisfaction association to non-significance, suggesting upward contrast to serve as a full mediator. It was not anticipated that tendency to contrast one's own relationship from desirable others would serve as a full mediator and so the results of these regression analyses are surprising. There is much within attachment theory itself that directly accounts for the consistent differences in relationship satisfaction identified in previous research (see Chapter 1 for discussion) and so that for the current study the results of this first set of mediation analyses is perhaps one that should be viewed with caution. The earlier regression analyses testing the predictive value of anxiety, avoidance, and their interaction term might provide some insight into why such caution in interpretation of this mediation should be demonstrated. While the direct association between attachment anxiety and relationship satisfaction was significant (that is, when entered as a single independent variable), when anxiety was entered as part of the anxiety/avoidance/interaction term model, anxiety was revealed to be a non-significant predictor (a finding that is not consistent either here within earlier studies or in previous research using dimensional assessment of attachment). Although for the current study reliability for both of the attachment dimensions was high, that anxiety on its own was a significant predictor but not when included in the wider attachment model may mean

that this variable lacks a stability that would allow for greater confidence in the mediation results presented.

However, with this in mind the results do suggest that tendency to focus on that which differs between own relationship and perceived desirable others accounts for the finding of increasing anxiety predicting decreasing relationship satisfaction. For high-anxiety individuals who demonstrate hypervigilant behaviours for signs of acceptance and rejection, more often being presented with comparison information in which the relationship they are currently in is seen as worse-off would contribute to feelings of dissatisfaction because of the unfavourable discrepancy inherent within such a contrast. For the low-anxiety individual who demonstrates a lesser tendency and therefore engages in upward contrast less often there is a lack of presentation of comparison information that is unfavourable to the quality of their own relationships and as such through attending less to such adverse information, levels of relationship satisfaction would remain positive.

The second mediation found for the association between anxiety and relationship satisfaction was upward identification (that is, seeing similarities between one's own relationship and perceived desirable others). The partial mediation that was revealed suggested that high-anxiety individuals' lesser tendency to engage in this relationship-boosting comparison tendency contributes to their decreased relationship satisfaction, while low-anxiety individuals' greater tendency to make positive links between own and others' appealing relationship contributes to their increased relationship satisfaction. The theoretical logic behind this mediation echoes that which was put forward for upward contrast; to more often see that a current relationship resembles others' relationships that are characterised by appealing qualities would give rise to feelings of gratification at the quality of the relationship being personally experienced, whereas to less often see this favourable link would not allow for the same gratification and satisfaction to arise.

The two findings regarding anxiety and relationship satisfaction are complementary to one another and paint an overall picture that a greater tendency to engage in adverse social comparisons and lesser tendency to engage in more favourable ones can indeed predict and contribute to judgements regarding the quality of a current relationship and the feelings of gratification individuals derive from it.

That no mediations (full or partial) were found for the association between attachment avoidance and relationship satisfaction may be suggestive of the earlier-mentioned theorising that highly-avoidant individuals' defensive nature may offer a

form of resilience against detrimental relationship comparison information. Similar to high-anxiety individuals, although the general tendency to make relationship comparisons overall was less for high-avoidance individuals, when they do engage in social comparisons it is typically to contrast from others' superior relationships more (and identify less with such relationship targets whilst additionally contrasting less from perceived inferior relationship targets). That both high-anxiety and high-avoidance individuals report lower relationship satisfaction, but only high-anxiety individuals' ratings appear to be contributed by their adverse comparison habits suggests that high-avoidance individuals indeed do not use the presented information in the same way as their high-anxiety counterparts. That is, although high-avoidance individuals tend to engage in upward contrast, their lower levels of relationship satisfaction are not attributable to this tendency (and conversely, low-avoidance individuals higher relationship satisfaction is not attributable to their lesser tendencies). However, while this may be indicative of a certain defensiveness in how such comparison information is attended to and utilised, it may instead be a reflection of high-avoidance individuals general lesser tendency to engage in relationship comparisons overall. That is, while such individuals do report contrasting from upward relationship targets, the fact that they compare their relationships less overall might mean that this decreased frequency is not enough to impact upon their relationship evaluations. With the results as they are it is difficult to ascertain which of these two possibilities is the likely contributor to explain the current sets of results. It is a limitation of the structure of the current study that future research more directly examining the effects of social comparisons may address. For example, it may be that employing a diary study methodology in which not only positive and negative mood can be reported subsequent to having made a social comparison but also additional feelings of well-being (either cognitive or relational). Adopting such a methodological approach may further provide insight into the broader impact of the types of comparisons individuals typically make on their well-being beyond the affective experience examined in Study 2B.

Lastly, the findings regarding potential mediators for the association between avoidance and life satisfaction was similar to those found for relationship satisfaction, that is, none of the upward/downward identification/contrast social comparisons was found to serve as a mediator for the observed findings of decreasing life satisfaction as avoidance increases. Similar to above, this finding may be reflective of a defensive trend in which comparison information is derogated in such a way to limit its impact on well-

being or it may be that the observed adverse comparison habits do not occur frequently enough (due to high-avoidance individuals' lesser tendency to engage in comparisons overall) in order to exert an influence.

Only one partial mediation was revealed for the association between increasing anxiety predicting decreasing life satisfaction and that was upward contrast tendency. To interpret this within a high-anxiety/low-anxiety context, high-anxiety individuals' greater tendency to contrast their own relationships from perceived desirable ones contributes towards their feelings of lesser life satisfaction while conversely low-anxiety individuals' lesser tendency contributes to their greater life satisfaction. This finding is particularly interesting when considered in conjunction with the previous findings identified here in the current series of work. In Study 1 when examining associations between attachment, relationship satisfaction and life satisfaction, it was revealed that relationship status served as a moderator for the association between the anxiety/avoidance interaction and life satisfaction. However, relationship satisfaction did not similarly serve as a moderator, with results revealing relationship satisfaction to serve as a moderator for attachment avoidance only (that is, did not moderate for anxiety). To concentrate on attachment anxiety, it was argued that for the distinction between high-anxiety and low-anxiety, experiences within a romantic relationship were not important for feelings of life satisfaction, only that, given the moderating effect of relationship status, individuals were actually experiencing a relationship. The anxiety-based results revealed in the current study seem to further suggest that, while experiences within a current relationship do not appear to impact on subjective well-being on the basis of anxiety, the *perceptions* of the quality of those experiences do. That is, low-anxiety individuals' high relationship satisfaction and high-anxiety individuals' low relationship satisfaction do not serve to moderate their differences in their experiences of satisfaction with life, but how they view their relationship experiences within the context of how they appear in comparison to others' experiences *does* account for their differences in life satisfaction judgments.

At this point it is important to emphasise that the *moderating* effect identified in Studies 1A and 1B are not considered interchangeable with the *mediating* effect identified in the current study (see Baron & Kenny, 1986 for consideration of the conceptual and statistical distinctions made between these two variable types). In this way it is understood that the processes being captured by the moderating and mediating models are different, but together they provide insight into an overall perspective of how

individuals' experiences within their relationships and the judgments they make in understanding those experiences impact upon and contribute towards their overall feelings of subjective well-being.

The aim of the current study was to examine whether attachment anxiety and avoidance significantly predicted differences in relationship- and partner-based social comparisons (that is, to expand upon the findings of Study 2 that revealed significant differences in general social comparisons) and whether differences in such comparisons made might provide further insight into the findings of Study 1 of attachment-based differences in life satisfaction and relationship satisfaction. The findings discussed above indeed appeared to indicate that individuals' partner- and relationship-based social comparisons contribute towards differences in subjective well-being experience, suggesting social comparison processes to be a further avenue to investigate how attachment orientations may influence perceptions of and experiences in their social environments and those significant others within. The next and final step in the current series of studies was to further explore the role of social comparison in providing further understanding of the findings of Study 1 of differences in well-being experience and relationship experience. Specifically, Study 1D revealed that changes in well-being occurred across time after individuals had experienced a change in relationship status (that is, they had entered into a new relationship or left an ongoing one). The final study then focused its examination on differences in social comparison (in this instance, social ranking judgments that indicate the positivity or negativity of self-perceptions in relation to others) as interacting with length of time in a current romantic relationship or length of time since having experienced a previous one. As such, it was hoped that individuals' attachment-based social judgments regarding how self is viewed in relation to others may provide further insight into previously identified well-being judgments (namely, life satisfaction).

Chapter 6. Study 5: Adult Attachment, Relationship Experience, and Social Ranking

Study 1D examined attachment-based changes in well-being (namely, life satisfaction, self-esteem, and positive and negative moods) across time within the first few weeks of having left a current relationship or entered into a new one. The results of multi-level modelling revealed that changes in subjective well-being did indeed occur on the basis of attachment anxiety and avoidance highlighting overall that attachment insecurity reflects an adverse well-being profile surrounding interpersonal experiences. Having established differences in attachment-based experience of well-being in a number of contexts (that is, baseline, moderated by relationship status, and cognitive and affective response to relationship status change), the subsequent studies carried out here sought to examine the role of social comparison in providing further insight into the observed well-being differences. The final study here sought to examine how attachment orientation might interact with length of time since being in a romantic relationship, as well as length of a current relationship, in predicting differences in social comparison judgments (specifically, social ranking in which perceptions of self-positivity or -negativity are weighed against perceptions of others to ascertain a certain subjective hierarchy). A further, final aim was to then examine how such social comparison judgments may mediate the earlier-identified associations between adult attachment and subjective well-being in the form of life satisfaction and self-esteem.

Based on work within an evolutionary psychology perspective, social ranking theory put forward that perceptions of social inferiority, in which individuals perceive themselves as being looked down on by others, produce submissive and non-assertive behaviours (e.g., Allan & Gilbert, 1997; Arrindell et al., 1990; Gilbert & McGuire, 1998). Within this perspective, Allan and Gilbert (1995) created a scale to assess ranking judgments, called the Social Comparison Scale (SCS), that includes judgments all relevant to the evolution theoretical roots from which it was derived, namely, those of social rank, attractiveness and group fit. The vast majority of research utilising the SCS has focused on social ranking in psychopathological-type tendencies such as anxiety, depression and depressive symptoms, and eating disorders, (Allan & Gilbert, 1995; Cheung, Gilbert, & Irons, 2004; Connan, Troop, Landau, Campbell, & Treasure, 2007; Gilbert, 2000; Gilbert, Allan, Brough, Melley, & Miles, 2002). Further, non-

psychopathological individual differences such as neuroticism and extraversion (Gilbert & Allan, 1994), anger expression and feelings of entrapment (Allan & Gilbert, 2002) and perfectionism (Wyatt & Gilbert, 1998) have also been examined within a social ranking context, demonstrating the social comparison scale's applicability to non-clinical samples.

As highlighted within the literature review on social comparison and adult attachment, only one study thus far has been carried out examining social ranking on the basis of self-reported attachment style. In their work investigating social ranking in adolescents, Irons and Gilbert (2005) found that those who categorised themselves as secure ranked themselves equally to others, that is, they perceived themselves as neither superior nor inferior. Avoidant adolescents ranked themselves as being inferior compared to secure adolescents while anxious-ambivalent adolescents' rankings did not differ from secures'. As well as utilise categorical assessment of attachment, the authors used a dimensional approach also (that is, participants were required to indicate the extent to which each classification was indicative of their own attachment-related feelings). From this more dimensional form of assessment, Pearson analyses revealed a small positive correlation between security and social ranking and negative correlations for anxious-ambivalence and avoidance. Further mediation analyses revealed that, for insecure attachment, social ranking served as a mediator for the association between that insecurity and anxiety and depression. What this study demonstrated therefore was that adolescents' perceptions of inferiority or superiority in comparison to others in their social environments both differed on the basis of their attachment-based feelings, and that these ranking judgments partially explained differences in depressive and anxious symptoms. However, while the authors did utilise a form of dimensional assessment (that is, a Likert-type measurement of agreement with each of the attachment classification descriptions that comprised the attachment scale they used), the focus of this assessment was still on a tripartite classification which omits a classification characteristic of fearful-avoidance (that is, one that is typified by both high anxiety and avoidance). Therefore while this study was greatly informative, it may have missed further potential attachment-based differences that direct dimensional measurement of anxiety and avoidance may better allow and therefore the first aim of the current study was to examine the direct predictive value of these two attachment dimensions on social ranking judgments. It was anticipated that:

Hypothesis 1: Greater attachment anxiety will predict decreased social rankings (both overall and belongingness), while greater attachment avoidance will predict increased overall social rankings but decreased belongingness.

It was anticipated that increased anxiety would predict decreased social rankings due to the negative model of self that characterises high-anxiety individuals. Indeed as earlier discussed, attachment anxiety (rather than avoidance) is what indicates the extent of positivity or negativity of self-perceptions (based on the theorising of Bartholomew and Horowitz, (1991)), with high-anxiety individuals perceiving themselves as unlovable and unworthy of others' responsiveness, while low-avoidance individuals perceive themselves more favourably as lovable and worthy of others' attention. As such this difference in inferiority of self would see differences emerge in perceptions of social positioning (both overall and in terms of feelings regarding group belongingness) and hence formed the basis for the above hypothesis.

The basis for predictions for attachment avoidance's predictive value for differences in ranking judgments lies in their perceptions of others in their social and interpersonal environments (that is, their working models of other). Similar to the theoretical consideration of anxiety's role in model of self, avoidance is argued to reflect models of other; individuals high in avoidance are reasoned to have more negative models of other in which others are perceived as untrustworthy and unlikely to be responsive to needs, whereas individuals low in avoidance have more positive models of other in which perceptions are characterised by a belief in the trustworthiness and responsiveness of significant others. With high-avoidance individuals then being characterised by negative perceptions and beliefs of others, it was anticipated that overall self-ranking judgments would be higher due to the negativity that surrounds their evaluations of others. This is not to say however that their hypothesised more favourable perceptions of self in comparison to others reflect the same evaluative outcomes as low-anxiety individuals' anticipated judgments. Indeed, low-anxiety individuals' judgments are reasoned to be the result of their positive perceptions of self, which is suggestive of more direct positive self-ranking evaluations rather than the indirect judgment outcomes for high-avoidance individuals that are based on their negative-other perceptions.

A manifestation of high-avoidance is an emotional distancing from others; in infancy, a lack of parental responsiveness to attachment needs produces within the infant a development of self-reliance that in adulthood sees a discomfort with closeness and

intimacy to be reported. It is because of this emotional distancing that decreased belongingness was anticipated to be reported; inherent within the maintaining of emotional distance is withdrawal from others and as such it was reasoned that highly avoidant individuals would not see themselves as fitting in and belonging as much as their low-avoidance counterparts. Indeed, research by Mikulincer et al. (1998) demonstrated that avoidance was related to underestimation of self-other similarity suggesting high-avoidance to be characterised not just by an emotional distancing from interpersonal experience but a cognitive distancing of dispositional characteristics also. On the above basis then it was reasoned that this cognitive distancing would produce a decreased belongingness rank score for increased avoidance.

The next focus of the current study was on how relationship status interacts with attachment in predicting social ranking. Study 1A revealed relationship status to moderate the association between anxiety, avoidance and their interaction on ratings of satisfaction with life and so the current study sought to identify whether relationship status would have a similar moderating effect for positivity or negativity in social ranking judgments. Firstly, the direct effect of relationship status was to be examined, with the following hypothesis formed:

Hypothesis 2: There will be a significant difference in social ranking ratings between those currently in a relationship and those not currently in a relationship.

Specifically it was anticipated that individuals currently in a romantic relationship would report more favourable social rankings, both overall and in their sense of belongingness, over their single counterparts. The basis of this hypothesised pattern lay in the findings of general interpersonal research providing evidence to suggest that romantic involvement provides a number of psychological benefits (e.g., Campbell et al., 1976; Demir, 2008; Diener et al., 2000; Gove et al., 1983; Lee et al., 1991; Waite, 1995). As such it was anticipated that a further benefit of romantic relationship experience would be increased positivity in social ranking self-perceptions. To have a romantic partner should suggest to an individual that they have personal qualities that are socially desirable and therefore the esteem gained from such romantic involvement would be expected to produce the anticipated more favourable ratings. With regards to feelings of belongingness, the acceptance inherent within romantic relationship experience should see perceptions of self be rated more favourably and thus the qualities

captured within the belongingness subscale of the social comparison scale be rated more positively in comparison to individuals currently without romantic partners.

While it was earlier anticipated (Hypothesis 1) that greater attachment anxiety would predict decreased social ranking judgments, it was anticipated that relationship status would moderate this association. While the direct effects of greater anxiety were expected to predict less positive social ranking and belongingness judgments, relationship status was anticipated to moderate the association through predicting increased social ranking in high-anxiety individuals in a relationship over their similarly anxious but single counterparts. This moderated association was anticipated on the basis of the above-mentioned acceptance that is suggested within romantic partner experience. For the high-anxiety individual whose attachment proclivities are characterised by a desire for acceptance by significant others which serves as a source of validation that they themselves are unable to achieve autonomously, the validation they would gain from having an emotional closeness to a significant other would see their comparative positivity of self-perceptions be elevated from their single counterparts who do not have the same, more steady access to sources of validation. For individuals low in anxiety however, it was not anticipated that social ranking judgments would differ across relationship status, that is, both low-anxiety individuals in relationships and low-anxiety individuals currently not in relationships would report similar social ranking judgments. The findings of Study 1A suggested that it was high-anxiety individuals whose life satisfaction benefitted from romantic relationship experience. Low-anxiety individuals' positive models of self manifest a lesser reliance on others for self-validation as their self-models produce perceptions of lovability and worth regardless of others' acceptance; that is, such individuals are able to self-validate and maintain positive self-perceptions autonomously. On this basis, such individuals' relationship experiences would be expected to impact little on their social ranking judgments as they would rank themselves positively regardless of whether having a romantic partner or not. Hypothesis 3 therefore read as:

Hypothesis 3: Relationship status will moderate the association between attachment anxiety and social ranking (both overall and belongingness).

With the findings of Study 1D revealing judgments in well-being to change across both the weeks of being in a new relationship and in the weeks subsequent to a previous

relationship ending, the next focus in the current study was to examine whether time was a factor in predicting differences in social ranking judgments. The following hypotheses were made regarding anxiety and time being single (that is, time since a previous relationship), as well as length of time in a current relationship:

Hypothesis 4a: The interaction between attachment anxiety and length of time since being in a relationship will predict social rankings.

Hypothesis 4b: The interaction between attachment anxiety and length of time in a current relationship will predict social rankings.

While it was anticipated that high-anxiety individuals overall would report less positive social ranking judgments in comparison to their low-anxiety counterparts, it was additionally anticipated that anxiety's interaction with length of time since last being in a relationship would produce further differences. Specifically, it was anticipated that high-anxiety individuals who reported a greater length of time since being in a relationship would report lower social ranking judgments compared to similarly highly anxious individuals reporting a shorter length of time since their last relationship. Study 1C in the current series of studies produced results that appeared to suggest that anxious individuals' relationship experiences are interpreted and understood through how such experiences reflect on them. For example, high-anxiety preoccupied- and fearful-avoidant type individuals reported a sharp decrease in self-esteem in the immediate days after a relationship had ended whereas their low-anxiety counterparts' self-esteem changed much less drastically. This was argued to suggest that high-anxiety individuals may see a relationship ending first and foremost as a form of rejection of who they are and that this rejection of their personal qualities and characteristics would see their already poor self-perceptions decrease in the worth they place in themselves. Similarly then, in the current study it was anticipated that the greater time that high-anxiety individuals are without a current relationship would give rise to anxieties about their personal worth and would result in poorer social ranking perceptions. For individuals low in attachment anxiety, it was anticipated that perceptions of social ranking would not differ across time due to the more positive self perceptions their models of self encompass producing a lesser reliance on others' acceptance for self-judgments. In this respect, a greater length of time not having a romantic relationship would not be

threatening to their perceptions of self in the context of how they view others, that is, how they rank themselves socially.

With regards to current relationship length, it was anticipated that for high-anxiety individuals, a greater relationship length would see less favourable social ranking judgments over their similarly high-anxiety counterparts whose relationships are newer. Although this might seem counterintuitive both theoretically (due to chronic access to acceptance-indicating partner behaviours) and to hypotheses made earlier regarding anxiety and relationship status, the basis of this hypothesis lies in high-anxiety individuals' hypervigilance to signs to rejection leaving them vulnerable to negative interpersonal interpretation in their romantic experiences. Although high-anxiety individuals' hypervigilance does see them identify positive partner behaviours, their negative cognitive bias and insecurity regarding partner acceptance tends to produce negative interpretations of partner behaviours of unavailability as signs of rejection of their needs. Repeated negative construal of partner behaviours across time is therefore reasoned to potentially produce more negative social ranking judgments, that is, partner behaviours that are repeatedly interpreted to reflect negatively on the self should produce judgments of self as inferior to social others. Indeed, when the results of self-esteem change within the first few weeks of a new relationship (Study 1D) were presented visually, although the slope for high anxiety did not reach the significance level, the trend that was presented suggested that self-esteem appeared to decrease across the time period examined within the study.

The anticipated association for low-anxiety individuals is expected to be converse to that anticipated to be reported by high-anxiety individuals, that is, low-anxiety individuals who have been in a relationship for longer are anticipated to report higher social ranking judgments in comparison to their counterparts who are have been in relationships for a lesser amount of time. The theorising behind this expectation is based on the findings that were revealed in Study 1D regarding change in self-esteem in the first few weeks of being in a new relationship. The interaction between anxiety and length of time in the relationship suggested that low-anxiety individuals reported an increase in self-esteem across the time period covered within the study. On the basis of this finding that for low-anxiety individuals' perceptions of self-worth improve as time within a relationship increases, it was anticipated that length of time in a romantic relationship would present a further psychological benefit in the form of increased social ranking judgments. Indeed these two evaluative constructs both capture characteristics

of self-assessment (with a difference being one (social ranking) represents perceptions of self in the context of others' qualities, and the other (self-esteem) represents perceptions outwith social hierarchical influence) and hence forms the basis for why social ranking judgments are anticipated to be consistent with the self-esteem findings of Study 1D.

The next focus of empirical attention in the current study was to examine the potential mediating effect of social ranking for associations between anxiety and life satisfaction and self-esteem. To recapitulate, the findings within Study 1 confirmed associations and patterns found in previous research that as anxiety increases, life satisfaction and self-esteem decrease. Although there are many factors within attachment theory itself that can directly account for these relationships, a further factor in differences in well-being was anticipated to be social ranking perceptions. Hypothesis 5 therefore read as:

Hypothesis 5: Social ranking will partially mediate the association between attachment anxiety and life satisfaction and self-esteem.

High-anxiety individuals' expected more negative social ranking judgments (that is, seeing the self as more inferior to social others) would be anticipated to contribute to their lower life satisfaction and self-esteem. To see oneself as inferior would be detrimental to overall satisfaction with life due to the unfavourable discrepancy between self-qualities and others' qualities, with such a discrepancy giving rise to negative feelings captured with Diener et al.'s (1985) scale, for example, the feeling that one's life is perhaps not close to ideal and experiencing a desire to change. Furthermore, experiencing a feeling of not fitting into group norms or being an outsider (as indicated by a lower belongingness score) would be expected to contribute to a decreased satisfaction with life for high-anxiety individuals due to their preoccupation with acceptance by others. To experience a lesser feeling of acceptance, which is central to high-anxiety individuals' concerns, would be anticipated to contribute to overall perceptions with life quality and therefore this theoretical contention provides a further avenue to anticipate social ranking judgments to partially mediate the association between anxiety and life satisfaction.

It is further anticipated that the association between anxiety and self-esteem (that is, as anxiety increases, self-esteem decreases) should be partially mediated by social

ranking judgments. Similar to life satisfaction, perceptions of self as inferior in comparison to others would be expected to contribute to high-anxiety individuals' lower self-esteem due to the unfavourable discrepancy evidenced by such a disadvantageous comparison. Furthermore the anticipated lesser sense of belongingness for high-anxiety individuals would be expected to contribute to decreased self-esteem because of the confirmation of negative self models that is inherent in the sense of not belonging to group norms and of perceiving oneself as being an outsider (that is, the form of rejection that can be inferred from a lesser social inclusion).

However, it may be that, rather than social ranking serving to partially mediate the association between anxiety and self-esteem, it is in fact self-esteem that partially mediates the association between anxiety and social ranking. That is, it may be that high-anxiety individuals' lower self-esteem (and conversely low-anxiety individuals' higher self-esteem) that contributes to their social ranking perceptions rather than their ranking perceptions contributing to their self-esteem. As such, mediation analyses will be carried out to test for this possibility.

The final focus in the current study was on examining the interactions between anxiety, length of time since being in a relationship/length of current relationship, and social ranking in predicting differences in life satisfaction and self-esteem. The nature of such three-way interactions is complex and so to list here each of the anticipated associations would be lengthy. However, it was anticipated that, in the case of relationship length, low-anxiety individuals whose relationships are longer established and report favourable social ranking judgments would report the highest life satisfaction and self-esteem due to the advantageous nature of their circumstances. That is, the positive models of self as of greater worth and lovability, a longer relationship which previous results in the current series of studies has identified to be beneficial, and favourable hierarchical perceptions of self in comparison to other should predict increased life satisfaction and self-esteem. It was further anticipated that individuals high in anxiety in more established relationships with less favourable social ranking judgments would report the lowest life satisfaction and self-esteem. This is anticipated due to high-anxiety individuals' negative models of self, the greater potential to see signs of rejection in longer-term relationships that they are cognitively biased to perceive, and the inferiority that accompanies lower social ranking judgments would produce the lowest life satisfaction and self-esteem levels.

In the case of length of time since being in a romantic relationship, it was anticipated that low-anxiety individuals with more favourable social ranking judgments would report the highest self-esteem and life satisfaction (that is, there is not expected to be a difference between low-anxiety individuals who have been single a shorter or a longer time). High-anxiety individuals who have been out of a relationship for longer and report less favourable social ranking judgments would report the lowest life satisfaction and self-esteem.

Hypothesis 6a: Anxiety, length of time since being in a relationship, and social ranking will interact to predict differences in life satisfaction and self-esteem.

Hypothesis 6b: Anxiety, relationship length, and social ranking will interact to predict differences in life satisfaction and self-esteem.

Method

Participants

A total of 399 participants comprised the sample of the current study, 303 of whom were female (75.9%) and 96 (24.1%) were male. Age ranged from 18 to 74 ($M = 34.94$, $SD = 10.94$). Two-hundred and fifty nine participants reported themselves to be currently in a romantic relationship, with 140 reporting themselves to be currently uninvolved in a romantic relationship. Of the participants in relationships, 54 reported themselves as in a relationship but not co-habiting, 64 as co-habiting with their romantic partners, 13 as engaged, and 128 as married. Length of current relationship ranged from 1 month to 42 years 9 months ($M = 105.09$ months, $SD = 104.10$). For individuals not currently in a relationship, length of time since the last relationship they had been in ranged from 1 week to 17 years 10 months ($M = 31.09$ months, $SD = 10.94$).

Measures

Demographic questionnaire. Participants were asked to complete a demographic questionnaire including questions on gender, age, countries of residence and origin, sexual orientation, relationship status, relationship length if current in a relationship and length of time since the most recent relationship if single

Adult Attachment. As in previous studies, attachment anxiety and avoidance were measured using the Experiences in Close Relationships – Revised (Fraley et al., 2000). Cronbach's alphas for anxiety and avoidance in the current study were both .94.

Social Ranking. Participants' views of self in comparison to others were measured using the Social Comparison Scale (SCS, Allan & Gilbert, 1995). This measure consists of 11 item scales (e.g., Inferior-Superior, Weaker-Stronger, and Unattractive-More Attractive), ranging from 1 to 10, in which participants indicate how they perceive themselves relative to others (with 1 indicating the greatest inferiority and 10 the greatest superiority). In its original 1-10 scale, the SCS does not have a single middle point to allow participants to indicate perceptions of equal ranking, therefore the scales were adjusted slightly in the present study to range from 1 to 9 to allow for a clear middle point (5) to reflect perception of equality. Two scores can be calculated from the Social Comparison Scale: a total social ranking score, and a score Allan and Gilbert (1995) referred to as Belongingness (comprising items Same-Different, Insider-Outsider, and Left Out-Accepted). The scale has been shown to have good reliability in previous research in both normal and clinical populations (e.g., Allan & Gilbert, 1995, 1997; Irons & Gilbert, 2005); Cronbach's alpha in the current study was .86

Life Satisfaction. Participants' life satisfaction was assessed using, as in previous studies, the Satisfaction with Life Scale (Diener et al., 1985). Cronbach's alpha was .89.

Procedure

The current study was carried out online; participants were recruited through online advertisements (for example, research listings on the Hanover Psychological Research on the Net web page) where they could read information on the nature of the study, provide informed consent to take part, and complete the measures. Upon completion, participants were debriefed on the aims of the study.

Results

Descriptive Statistics and Correlations

The means and standard deviations for all variables of interest are presented in Table 47.

Table 47. Descriptive statistics

	Mean	Standard Deviation
Attachment anxiety	3.07	1.20
Attachment avoidance	2.96	1.16
Life satisfaction	23.06	6.80
Social Ranking	59.80	12.07
Belongingness	13.26	4.43

Looking at the means for attachment anxiety and avoidance, attachment avoidance is consistent with means established in previous research (see Fraley, 2011) while attachment anxiety is lower (with typical means reported ranging from 3.23 in older age groups to 3.71 for individuals whose marital status is single (Fraley, 2011)). The means for social ranking and belongingness are unable to be compared against those identified in previous research due to the slight change in scoring (changed from a scale of 1 to 10 for each item to 1 to 9 to allow for a clear middle point representing equality). However with a total possible score of 99, the mean presented in Table 47 suggests that on average, participants rated themselves generally quite favourably in comparison to others. For the belongingness variable, the mean score suggests individuals to generally see themselves equally in terms of how they see themselves fitting in with others. Lastly, the mean score for life satisfaction is consistent with earlier studies in the current series of work and is slightly elevated over those reported in previous research (e.g., Hwang et al., 2009; Perrone et al., 2007).

Pearson correlation coefficients were calculated to examine the associations between attachment dimensions, life satisfaction, and social ranking judgements. Table 48 presents the results.

Table 48. Correlations between Attachment Dimensions, Well-Being, and Ranking

	1	2	3	4	5
1. Anxiety	-	.49***	-.41***	-.38***	-.28***
2. Avoidance		-	-.44***	-.27***	-.23***
3. Life Satisfaction			-	.39***	.35***
4. Social Ranking				-	.73***
5. Belongingness					-

*** $p < .001$

Consistent with previous research and with earlier studies in the current work series, both anxiety and avoidance were negatively correlated with life satisfaction, suggesting that as attachment insecurity increases, satisfaction with life decreases. Further negative correlations were revealed between the attachment dimensions and social ranking and belongingness scores suggesting that increases in both anxiety and avoidance are associated with decreases in perceptions of social ranking in comparison to others and the extent to which one feels a sense of belonging. Lastly, positive correlations between life satisfaction and social ranking judgments were revealed

suggesting that increases in life satisfaction are associated with more positive ranking perceptions.

Adult Attachment and Social Rankings

Hypothesis 1 predicted that greater attachment anxiety would predict decreased social ranking judgments while greater avoidance would predict an increased overall social ranking judgment but a decreased belongingness judgment. First, overall social ranking was regressed onto anxiety and avoidance at the first step and their interaction term at the second step; the overall model was significant ($F = 24.04$ (3, 398) $p < .001$) and accounted for 14.80% of the variance. Both attachment anxiety ($\beta = -.33$, $p < .001$) and avoidance ($\beta = -.11$, $p < .05$) were significant predictors of social ranking but their interaction term was not ($\beta = .04$, $p = .36$; F change = .83, $p = .36$). The results therefore suggest that as anxiety and avoidance independently increase, perceptions of social ranking (that is, views of the positivity of self in comparison to others) decrease. Hypothesis 1 was therefore partially supported: while anxiety followed the hypothesised pattern of increases predicting decreased ranking perceptions, the hypothesised pattern of increasing avoidance predicting increased social ranking did not, instead demonstrating a similar pattern as identified for anxiety.

Next, ratings of belongingness were examined. Similar to above, anxiety and avoidance were entered at the first step and their interaction term into the second step of the regression equation while belongingness was entered as the dependent variable. The overall model was significant ($F = 14.33$ (3, 398) $p < .001$) and accounted for 9.10% of the variance. Table 49 presents the results.

Table 49. Adult Attachment as Predictor of Belongingness

Attachment	B	SE B	β	R²	F of Change
Anxiety	-.85	.20	-.23***		
Avoidance	-.48	.21	-.13*	.09	19.09***
Anxiety*Avoidance	.30	.14	.10*	.01	4.48*

* $p < .05$

*** $p < .001$

The findings presented in Table 51 reveal that, consistent with Hypothesis 1, as anxiety and avoidance independently increase, sense of belonging decreases. The

interaction term was also revealed as a significant predictor and is visually presented in Figure 39.

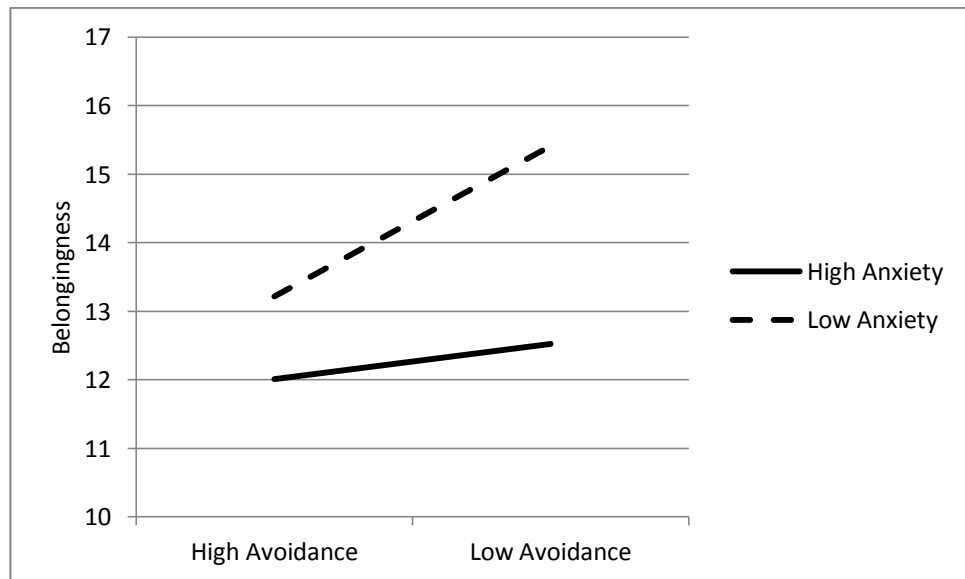


Figure 39. Attachment Anxiety and Avoidance as Predictors of Belongingness

Table 50. Simple Slopes Analyses for Belongingness Differences

Differences	t
Fearful-avoidant and Dismissing-avoidant	-1.99
Secure and Preoccupied	-4.40**
Fearful-avoidant and Preoccupied	-.46
Secure and Dismissing-avoidant	-3.01*

* $p < .05$

** $p < .01$

Interpreting the results presented in Figure 39 in the context of attachment classifications, individuals fitting a secure classification reported the greatest sense of belonging and fitting in, with dismissing-type individuals reporting the next highest ranking scores. Preoccupied- and fearful-type individuals both reported similar lower levels of feelings of belongingness. Slopes analyses were carried out and are presented in Table 50.

Hypothesis 2 focused on examining differences in social ranking judgments on the basis of relationship status, that is, whether individuals in a romantic relationship reported higher social ranking judgments than those currently not in a relationship. To test this, an independent t -test was carried out for each of overall social ranking and belongingness. Table 51 presents the results of these analyses.

Table 51. Mean Differences across Relationship Status

Dependent Variable	Group	<i>t</i>	Mean Difference	<i>p</i> (one-tailed)
Social Ranking	In Relationship	-1.83	-2.31	.03
	Not in Relationship			
Belongingness	In Relationship	-1.07	-.50	.14
	Not in Relationship			

As can be seen in Table 51, there was a significant difference in overall social ranking scores between individuals currently in a relationship and those currently not, revealing the former group ($M = 60.61$, $SD = 11.08$) to report higher ratings than the latter ($M = 58.30$, $SD = 13.64$). However no significant difference was identified between these two groups for ratings of belongingness. Hypothesis 3 was therefore partially supported.

Hypothesis 3 put forward that relationship status would moderate the association between attachment anxiety and social ranking judgments (both overall and belongingness). In order to test this hypothesis, anxiety and relationship status were entered at the first step of the regression equation and their interaction term entered at the second step for each of the social ranking variables. The model for overall social ranking was significant ($F = 24.26$ (3, 398) $p < .001$). The results are presented in Table 52.

Table 52. Adult Attachment as Predictor of Social Ranking

Attachment	B	SE B	β	R ² Change	F of Change
Anxiety	-5.40	.83	-.54***		
Status	-2.00	1.29	-1.56	.15	33.88***
Anxiety*Status	2.19	1.04	.16*	.01	4.44*

* $p < .05$

*** $p < .001$

As can be seen in Table 53, while attachment anxiety was a significant predictor of social ranking judgments, relationship status in the current model was not. However, the

interaction between these two variables was a significant predictor, the results of which are presented in Figure 40.

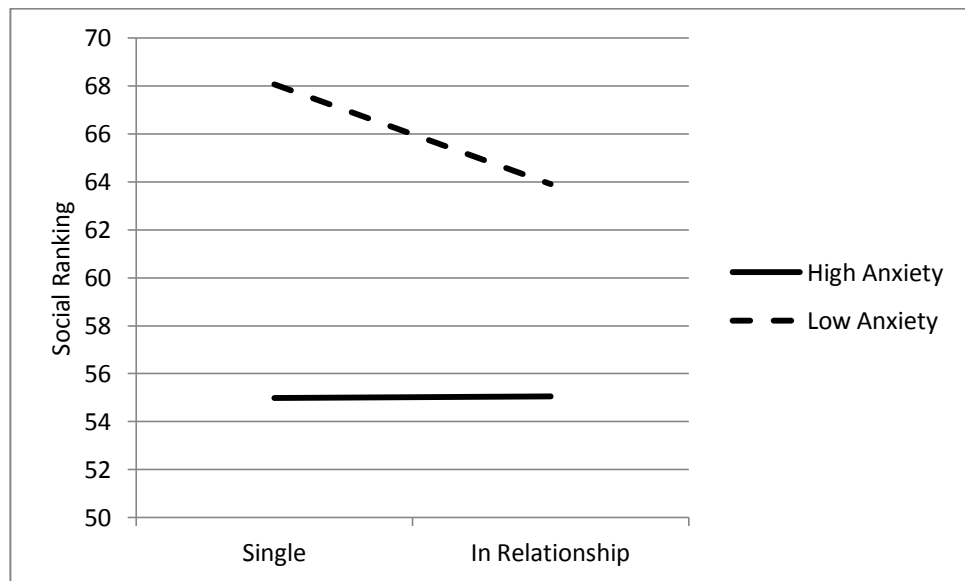


Figure 40. Anxiety and Relationship Status as Predictors of Social Ranking

Table 53. Simple Slopes Analyses for Anxiety and Relationship Status as Predictors of Social Ranking

Differences	t
High anxiety/single and Low anxiety/single	-8.83***
High anxiety/in rel and Low anxiety/in rel	-3.79**
High anxiety/single and High anxiety/in rel	.39
Low anxiety/single and Low anxiety/in rel	-2.35

** $p < .01$

*** $p < .001$

As suggested by Figure 40, individuals high in anxiety appear to report similar social ranking judgments whether they are currently in a romantic relationship or not (that is, they perceive themselves in comparison to others similarly less positively than their low-anxiety counterparts). For low-anxiety individuals, the results suggest that those currently in a romantic relationship report lower social ranking judgments than those currently single, suggesting self-perceptions to be more positive when not in a relationship than when in (however slopes analyses indicate the difference to be non-significant). Slopes analyses are presented in Table 53 revealed the trajectories for single, high-anxiety individuals and single, low-anxiety individuals to significantly differ, as well as the trajectories for high-anxiety individuals in relationships and low-anxiety individuals in relationships to significantly differ.

The regression analysis for belongingness revealed that only anxiety was a significant predictor ($\beta = -2.81, p = .001$). Hypothesis 3 was therefore only partially supported. Although attachment avoidance was not anticipated to interact with relationship status to predict differences in social ranking judgments, regression analyses were carried out for each of overall social ranking and belongingness to ensure this anticipation was accurate. Indeed analyses revealed that only avoidance was a significant predictor of social ranking ($\beta = -.39, p < .001$) and similar was identified for belongingness ($\beta = -.27, p < .01$).

The next hypotheses focused on length of time in a relationship as well as length of time since having been in a previous relationship as interacting with attachment anxiety in predicting differences in social ranking judgments. The aim here was to identify whether the above relationship experiences would see differences in self-perceptions in relation to others within surrounding social environments.

As indicated within the Methods section, both length of current relationship and length of time since having been in a relationship were measured in months. These time variables were centred in accordance with Aiken and West (1991) so to create interaction terms with anxiety. Anxiety, length of current relationship (first step) and their interaction term (second step) were then entered into the regression equation with overall social ranking as the dependent variable. The overall model was significant ($F = 10.34 (3, 257) p < .001$) accounting for 9.8% of the variance. Only attachment anxiety was revealed as a significant predictor ($\beta = -.33, p < .001$), suggesting that, as identified earlier, as anxiety increases, positivity of self-perceptions in relation to others decreases.

Next, belongingness was examined; the model was also significant ($F = 9.10 (3, 257) p < .001$) accounting for 8.6% of the variance. Both anxiety ($\beta = -.31, p < .001$) and relationship length ($\beta = -.13, p = .05$) were significant predictors (their interaction however was not, $\beta =$), suggesting that as anxiety and relationship length independently increase, sense of belongingness decreases.

Length of time since single individuals' last relationship was next explored. Similarly as above, anxiety and length of time single were entered at the first step and their interaction term entered at the second step for each of overall social ranking and belongingness. The model for overall social ranking was significant ($F = 12.61 (3, 128) p < .001$), accounting for 21.4% of the variance. Both anxiety ($\beta = -.48, p < .001$) and months single ($\beta = -.15, p = .05$) were significant predictors but their interaction was not.

The results therefore suggest that as anxiety and months single independently increase, the positivity of perceptions of social ranking decrease.

While the model for belongingness was also significant ($F = 4.54$ (3, 128) $p < .01$), only attachment anxiety was revealed as a significant predictor of sense of belongingness ($\beta = -.30$, $p = .001$).

Overall then, Hypotheses 4a and 4b were not supported.

Hypothesis 5 put forward that social ranking judgments would partially mediate the association between attachment anxiety and life satisfaction and self-esteem. Similar to Studies 2A and 4B, the regression steps outlined by Baron and Kenny (1986) were carried out. The results of these regression steps revealed that neither overall social ranking nor belongingness met the criteria for partial or full mediation for either life satisfaction or self-esteem and so Hypothesis 5 was therefore not supported.

The final hypotheses predicted differences in life satisfaction and self-esteem as based on interactions between anxiety, relationship circumstances (that is, length of time either in a current relationship or since a previous one) and social ranking. Of the eight regression models encapsulated by Hypotheses 6a and 6b, while each model was significant, only one produced a three-way interaction that was approaching significance; Table 55 presents the results.

Table 54. Anxiety, Social Ranking, and Relationship Length as Predictors of Life Satisfaction

Model	B	SE B	β
Anxiety	-1.57	2.03	-.27
Social Ranking	.13	.04	.23**
Relationship Length	-.01	.00	-.14*
Anxiety*Ranking	-.00	.03	-.00
Anxiety*Length	-.01	.00	-.20**
Ranking*Length	-.00	.00	-.06
Anxiety*Ranking*Length	-.00	.00	-.12 ^a

^a $p = .06$

* $p < .05$

** $p < .01$

Figure 41 presents the results visually.

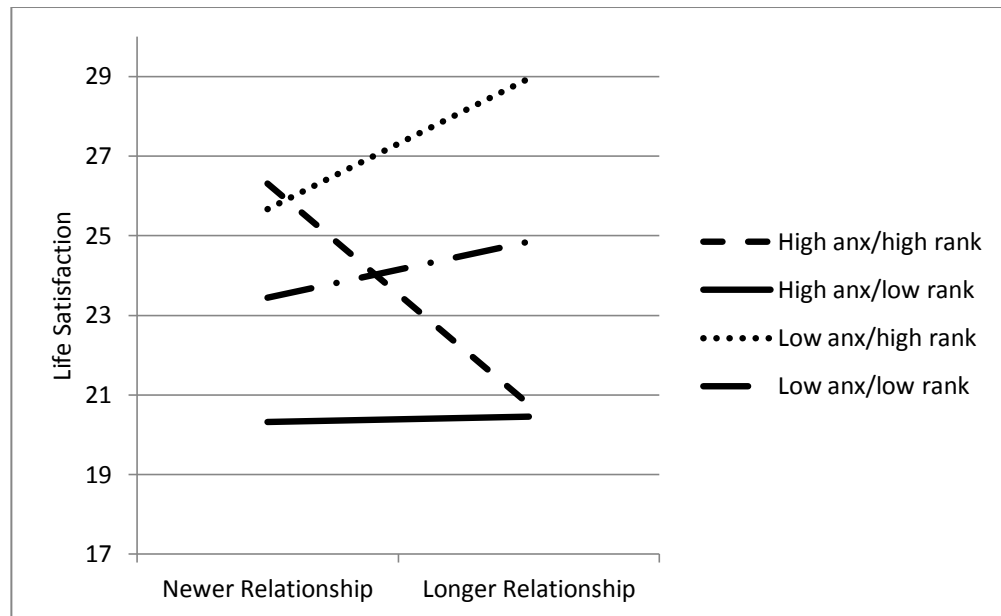


Figure 41. Anxiety, Social Rank, and Relationship Length as Predictors of Life Satisfaction

Although the above Figure must be interpreted within the context that statistical significance was not quite reached, the trends presented above provide an interesting insight into life satisfaction differences on the basis of attachment anxiety, social ranking judgments, and current relationship length. As can be seen above, individuals low in anxiety with more positive social ranking self-perceptions and in longer relationships reported experiencing the highest life satisfaction. High-anxiety individuals with more negative social ranking self-perceptions reported the lowest life satisfaction regardless of whether they were in a newer relationship or one more established. However, the most interesting pattern to emerge from the above regression analysis appears to be for high-anxiety individuals whose social ranking judgments are more positive. It appears that for such individuals who are in newer relationships, life satisfaction judgments are greater, but when similarly anxious individuals are in more established relationships, their life satisfaction judgments become similar to their high-anxiety counterparts whose social ranking judgments are poorer.

Discussion

The purpose of the current, final study was to examine attachment-based differences (as measured dimensionally) in social comparisons in the form of social ranking judgments, as well as examine the role of social ranking judgments in providing insight into well-being differences identified in earlier studies in the current work series.

The results of analyses examining direct attachment-based influences on social ranking perceptions revealed that as both anxiety and avoidance independently increased, overall social ranking perceptions decreased, suggesting attachment insecurity to manifest further disadvantageous cognitions beyond those more directly interpersonally focused. The above result for anxiety is consistent with hypotheses that reasoned high-anxiety individuals' negative models of self would see perceptions of inferiority in comparison to social others; to see the self as being of lesser worth and lovability would intuitively produce perceptions of others as being of greater worth and therefore having more positive dispositional qualities that would place such others in more favourable hierarchical positions. However, the result for avoidance was counter to hypotheses that put forward that, due to highly-avoidant individuals' negative models of other, social ranking self-perceptions would be more favourable. Instead, the results revealed that high avoidance produces a similar self-negativity with regards to social hierarchical judgments as that reported by high-anxiety individuals (although the strengths of the beta coefficients suggest negativity to a lesser extent). While this result is in line with those identified by Irons and Gilbert (2005) in their more dimensional treatment of attachment orientations, it appears counter to the theoretical notion that avoidance is characterised by negativity of perceptions of others. What these results may suggest is that early caregiver experiences of limited responsiveness (that produce negativity in working models of others and discomfort with closeness and intimacy) produce unfavourable self-perceptions that in the current study manifested as unfavourable self-perceptions in a social hierarchical context. Although previous work within the adult attachment literature has put forward that high avoidance may manifest a defensive positivity regarding the self that hinges on self-reliance and competency (e.g., Brennan & Bosson, 1997; Brennan & Morris, 1997; Mikulincer, 1998b), the result identified here seems to suggest that the extent of high-avoidance individuals' defensiveness may not protect against perceptions of social ranking, revealing self-perceptions of self as more negative than that reported by their low-avoidance counterparts.

The results examining social ranking feelings regarding a sense of belongingness revealed that individuals fitting a secure attachment classification reported the highest ratings, followed by dismissing-type individuals, and lastly, reporting similar levels, preoccupied- and fearful-type individuals. That secure-type participants reported the greatest sense of belonging and fitting in socially is consistent with theoretical

expectations; for such individuals who have positive models of both self and other resulting from their low anxiety and avoidance, their attachment-based proclivities enable them to pursue the interpersonal experiences they desire (that is, closeness with others) and so the resultant beneficial behaviours (such as interpersonal disclosure and support seeking and provision) may permit the experience of feelings of inclusion. Furthermore, secure individuals' more positive interpersonal interpretations in which they report feeling happier in their interactions and that others are more responsive to them and understanding (e.g., Kafetsios & Nezlak, 2002; Pietromonaco & Feldman Barrett, 1997; Tidwell et al., 1996) should also provide a basis for feelings of greater inclusion to the greater responsiveness of others suggesting acceptance.

The high anxiety that characterises preoccupied- and fearful-type individuals may account for their reporting a lesser sense of belonging. Individuals characterised by high anxiety place greater importance on others' acceptance but are found to perceive more negativity in others' interactions with them (e.g., Pietromonaco & Feldman Barrett, 1997). This greater negativity in the interpretations they make regarding their interpersonal interactions would form a basis for feeling a decreased sense of belonging, as due to perceiving others to be less responsive and positive would be suggestive of lesser acceptance than if others were perceived as greatly responsive and more positive towards them. Although the underlying mechanisms accounting for the observed levels of feelings of belongingness have not been explored in the current study, it would prove interesting if future research examining social comparison within a social ranking context could examine whether the perceived nature of individuals' interactions with others is what contributes to their decreased social belongingness judgments.

It is interesting to note that individuals fitting a dismissing-avoidant attachment classification reported an increased sense of belonging over their high-anxiety counterparts. While their judgements were lower than that reported by secure-types, the results as presented in Figure 40 appear to suggest that they feel a greater sense of belonging, despite typically being characterised by a lesser interpersonal orientation and an emotional and cognitive distancing from others, than their high-anxiety counterparts (preoccupied- and fearful-types) whose attachment characteristics see a greater desire for social inclusion. The finding that dismissing-type individuals did indeed report a decreased sense of social belonging in comparison to secure-type individuals does indeed support the theoretical notion of discomfort with closeness manifesting a cognitive distancing from others, but that preoccupied- and fearful-type individuals

reported lower belongingness further highlights the maladaptive approach to interpersonal experiences these two attachment ‘groups’ typify. Despite desiring closeness with others the most due to their reliance on acceptance for self-validation, their negative cognitive biases prevent them from feeling socially included to the same extent as secure-types and, despite having a lesser interest in such, dismissing-types.

Overall, the above results provide evidence for the notion that individuals’ social comparison tendencies and judgments differ by virtue of their attachment proclivities and provides further support for the notion that attachment insecurity indeed reflects a maladaptive cognitive style in which perceptions of self and others differ in their positivity and negativity. Although the simplistic nature of data collection in which direct associations were explored does not permit exploration of the cognitive mechanisms accounting for the observed differences, the current study has provided further insight into how individuals’ attachment-related thoughts and feelings may influence their social comparison experiences and as such can be utilised to provide direction for any future empirical endeavours.

The results of independent *t*-tests examining differences in social ranking on the basis of relationship status revealed that social ranking judgments indeed differed based on whether individuals were currently in a relationship or currently single. Specifically, individuals currently in a romantic relationship reported more positive social ranking ratings than their single counterparts, suggesting that, without consideration of dispositional factors, simply being in a romantic relationship sees self-perceptions in comparison to others be more favourable. Previous research examining the psychological benefits of interpersonal involvement has provided evidence to suggest romantic relationships provide boosts to subjective well-being (e.g., Campbell et al., 1976; Demir, 2008; Diener et al., 2000; Gove et al., 1983; Lee et al., 1991; Waite, 1995); the current study therefore adds to this empirical precedent by providing results suggesting that a further psychological benefit to being in a romantic relationship emerges in the form of more positive comparative self-perceptions. It may be that perceptions of improved hierarchical esteem arise due to the importance placed on romantic relationships. The topic of romantic relationships is a socially significant one, for example, the ubiquitous coverage of interpersonal advice and presentations of that which is appealing and ideal within mass media outlets (e.g., Carpenter, 1998; Duran & Prusank, 1997; Heintz-Knowles, 1996; Johnson & Holmes, 2009; Kidd, 1975; Kim et al., 2007; Pardun, 2002; Prusank, Duran, & DeLillo, 1993; Signorielli, 1991, 1997;

Tanner, Haddock, Schindler Zimmerman, & Lund, 2003; Wray & Steele, 2002) that perpetuate the importance of finding a significant other. Achieving the socially-prescribed life goal of interpersonal success may then see perceptions of ranking improve because of the associated social prestige. It is interesting to note that the significant difference found for relationship status refers to overall social ranking perceptions only and does not extend to feelings of belongingness. One would expect that feelings of belongingness would increase upon sharing romantic experiences with a partner; the acceptance alluded to in belongingness that is provided by gratifying experiences such as partner responsiveness and positive feedback would intuitively produce feelings of belonging. However, it may be that the factors comprising this social ranking sub-factor (that is, feeling accepted or left out, feeling the self to be an insider or outsider, and being similar or different to others) are more relevant to feelings regarding social others rather than romantic others. That is, having a romantic partner may influence feelings of being accepted, but may have less influence on how much of an outsider an individual feels and how different they feel themselves to be (as both these latter factors could be argued to be intuitively tied to issues of group norm conformity). That is, while this social ranking sub-factor does capture elements of other-acceptance, the overall implied focus on group norms might account for why no difference in judgments occurs on the basis of relationship status. The fact that later analyses carried out exploring anxiety's interaction with relationship status was not predictive of feelings of belongingness further supports this notion.

The addition of considering attachment anxiety's interaction with relationship status produced interesting results. The results of the regression analysis suggested that, for high-anxiety individuals, overall social ranking judgments did not differ; whether in a relationship or not their judgments regarding their perceived social hierarchical positioning remained lower than their low-anxiety counterparts. This appears to suggest then that high-anxiety individuals, who in previous analyses here were revealed to report decreased social ranking judgments, do not benefit from romantic involvement with regards to how they view themselves in comparison to others in their social environments. For such individuals who highly value romantic partners and relationships (indeed, their high-anxiety sees hyperactivation of the attachment system in which working models are chronically accessible and hence associated schema are argued to be centralised within their associative networks, as well as demonstrating greater dependence on others' esteem for validation), it could be expected that romantic

involvement would see improvement to social ranking perceptions. However, high-anxiety individuals are, as previously discussed, governed by a negative cognitive bias and so it may be that such individuals' propensity to make negative inferences about their interpersonal experiences might serve as a cognitive barrier to self-perception improvement. Indeed, the results of Study 1C in the current work series with regards to self-esteem change in response to new relationship formation saw little improvement in self-esteem perceptions upon entering into a new relationship and so high-anxiety may represent a maladaptive resilience to increases in self-value. It should be noted, however, that Study 1A also revealed that high-anxiety individuals (that is, preoccupied- and fearful-types) who were currently in relationships reported improved life satisfaction over their single counterparts, a finding that is counter to the resilience perspective offered here. However, these two seemingly incongruous sets of findings may not necessarily be contradictory, instead such findings may paint an overall picture of high-anxiety individuals being able to derive positivity from their romantic experiences in the form of general cognitive judgments (as represented by life satisfaction judgments) but that their less favourable perceptions of self (namely, those that are captured within their negative internal working models of self) remain steadily resilient and chronically lower.

A major focus of empirical attention within the current study was examining the interactions between anxiety and both length of time since a previous relationship and current relationship length in predicting differences in social ranking judgments. Surprisingly, and counter to hypotheses, each of the regression analyses produced non-significant results, suggesting that while relationship status does appear to make a difference to individuals' self-other ranking perceptions on the basis of levels of anxiety, neither how long individuals have been in their current relationship nor how long it has been since their last relationship appear to have an influence. The reasons for this lack of significant findings could be theoretically or methodologically based. Methodologically, it may be that issues of sample demography resulted in an inadequacy to capture the hypothesised processes. Mean relationship length in the current study was 105 months (equating to roughly 8 years). While there was a broad range of different relationship lengths (ranging from 1 month to 42 years and a standard deviation of 104 months), the generally greater length of relationships sampled may have been problematic as the greater anxiety-based changes to social ranking perceptions may occur within the first months of a relationship (and indeed first months of being single) rather than after years. However, that the regression analyses revealed that months since an individual's last

relationship was an independent significant predictor of social ranking perceptions is counter to this. Theoretically then, the argument that may explain the lack of significant findings may lie in the stability of internal working models of self. As earlier described, attachment anxiety more governs positivity and negativity of working models of self, while avoidance more governs positivity and negativity of working models of other. As such, it may be that anxiety does not interact with time to produce differences in social ranking judgments because low-anxiety individuals' positive perceptions and high-anxiety individuals' negative perceptions that are captured within their working models of self are resilient to change and hence perceptions of superiority and inferiority remain steady. For example, high-anxiety individuals' chronic perceptions of self as of lesser worth and lovability may not be influenced by being single for a length of time because such a single status may simply serve to support their already negative self-perceptions. As such, regardless of whether high-anxiety individuals have been single for a few months or many, perceptions of self will be steadily negative.

At this point it must be emphasised that the above discussion does not assume that the negative and positive perceptions encapsulated within individuals' internal working models are equivalent to the self-concepts that are captured within favourable or unfavourable social ranking judgments. Rather it is suggested that the working models of self captured by attachment anxiety consist of cognitive elements that are indicative of social hierarchical positioning, that is, high-anxiety individuals' model of self as of lesser worth are cognitively akin to ranking perceptions of social inferiority.

A further non-significant set of results that is interesting are the findings of social ranking judgments not serving as mediators (either full or partial) for the associations between attachment anxiety and well-being factors life satisfaction and self-esteem. It was anticipated that high-anxiety individuals' lower levels of life satisfaction and self-esteem and low-anxiety individuals' higher levels would be partially contributed to by their social ranking judgments but, at least for the current sample, this does not appear to be the case. Focusing on high-anxiety individuals, it may be that such individuals' lower subjective well-being is not partially attributable to their social ranking judgments because their less favourable ranking perceptions are already consistent with their negative internal working models. As such, the more negative well-being levels are not accounted for by social ranking perceptions because the negative self-models, which are argued to be akin to and therefore capture cognitions represented by these hierarchical judgments, are directly predictive in and of themselves.

Although the mediation analyses indicated that social ranking judgments do not serve as a mediator for the relationship between anxiety and well-being, the results of regression analyses revealed that social ranking may act as a moderator instead, with findings for the three-way interaction between anxiety, relationship length, and social ranking producing a marginally significant result for judgments of life satisfaction. As indicated earlier, although the results of the above three-way interaction did not quite reach the significance threshold (indeed a larger sample size may have allowed the results to reach an acceptable significance level), the results did reveal some interesting patterns, most notably for high-anxiety individuals with more favourable social ranking judgments. For such individuals the pattern emerged of reporting life satisfaction that was similar to their low-anxiety/high-ranking counterparts when in newer relationships, but their life satisfaction when in longer-term relationships is nearly equal to individuals high in anxiety and with unfavourable social ranking perceptions. Although the results suggest nothing of causation, a possible reason for this difference in life satisfaction ratings may be that early partner behaviours, such as desire for physical closeness, may provide a boost to life satisfaction because of the gratification derived from perceived partner acceptance. Because of high-anxiety individuals' negative cognitive biases that often manifest perceptions of rejection in partner behaviours, life satisfaction judgments may be lower in longer-term, more established relationships because of being more chronically presented with such negative-model-of-self-confirming acts. Why this suggested pattern would be evidenced for high-anxiety individuals with more favourable social ranking perceptions and not high-anxiety individuals with less favourable perceptions may be due to whether negatively-interpreted partner behaviours confirm or disconfirm social ranking judgments. For high-anxiety individuals who, despite the negative models of self that typify them report a more favourable social ranking, the usually negative interpersonal interpretations that characterises their orientation would be counter to those more favourable ranking perceptions and as such may reduce their overall satisfaction with life. For the high-anxiety individuals who report more congruous negative social ranking perceptions, partner behaviours that are construed negatively are in keeping with their general negative sense of self and so would be less likely to influence their overall feelings of satisfaction with life. The fact that high-anxiety individuals with less favourable social ranking perceptions report similar levels of life satisfaction whether they are in more newly established relationships or longer-term ones is supportive of this theoretical contention.

Low-anxiety individuals, both those with more and less favourable social ranking perceptions reported higher life satisfaction in longer, more established relationships than those who were in newer relationships. This converse pattern in comparison to high-anxiety, favourably-ranked individuals may be a manifestation of the less negative cognitive bias such low-anxiety individuals demonstrate. Instead of being governed by a negative bias that produces negative interpersonal interpretations, low-anxiety individuals' more positive interpersonal dispositions may allow them to derive benefit in the form of increased life satisfaction in longer-term relationships in which personally gratifying partner behaviours, such as disclosure and support seeking and provision, are more prevalent. This would appear to be the case for both low-anxiety individuals with more and less favourable social ranking perceptions; although the slopes appear to suggest a greater difference between the two low-anxiety/high-ranking groups than for the low-anxiety/low-ranking groups, the trends seems to suggest that generally low-anxiety individuals gain cognitive well-being benefit from their longer-term relationships.

In sum, the results of the current study suggest that social ranking (a form of social comparison due to social hierarchical positioning judgments that are based on how positively or negatively the self rates compared to others within individuals' social environments) does differ on the basis of attachment anxiety and avoidance. However, a major aim of this final study was to determine whether this ranking form of social comparison would provide insight into the well-being differences identified in earlier studies within the current work series, that is, both the findings of differences in life satisfaction as well as changes in well-being in the months since a relationship breakdown or formation was experienced. The results of this current study appear to suggest that social ranking judgments do not contribute to the attachment-based differences in well-being experienced as predicted by differences in interpersonal experience. However, that anxiety and avoidance did predict differences in self-other positivity and negativity perceptions, as well as interactions between anxiety, social ranking and relationship length appearing to suggest interesting patterns of life satisfaction experience, while the results observed here do not serve to provide insight into earlier-identified findings, they do suggest that further exploration in future empirical endeavours on this topic may be warranted.

Chapter 7: General Conclusion

The aim of the current series of studies was to examine attachment anxiety- and avoidance-based differences in subjective well-being experience, and to examine the moderating and mediating effects of both relationship experience and social comparison.

Study 1 sought to address a gap in the subjective well-being and attachment literatures by examining the role of interpersonal factors in moderating previously-identified baseline differences in life satisfaction, but also in other factors relevant to subjective well-being in the forms of self-esteem, and positive and negative moods. The results of baseline life satisfaction differences were in keeping with those previously identified, suggesting life satisfaction judgments to decrease as anxiety and avoidance increase. Furthermore, the attachment ‘classifications’ created by anxiety’s interaction with avoidance produced results similar to those identified by Hwang et al (2009) in which categorical assessment of attachment saw secure individuals report the highest life satisfaction and fearful-avoidant individuals the lowest. However, Study 1A here further found dismissing- and preoccupied-type individuals’ life satisfaction ratings to significantly differ. These further results might be a reflection of the larger sample size obtained for Study 1 than for Hwang et al.’s (2009) study, or it may be a reflection of the benefits of utilising dimensional assessment of attachment over categorical however the findings of Study 1A added further support to previous studies’ work demonstrating secure-type individuals experience the greatest subjective well-being (in this case, life satisfaction) with insecure-type individuals experiencing decreased well-being. Study 1A also expanded upon previous findings by identifying that individuals’ relationship experiences (that is, whether they were currently in a relationship or not) have a moderating effect on feelings of life satisfaction. The results revealed that high-anxiety preoccupied- and fearful-type individuals report greater satisfaction when in a relationship than when not, that secure-type individuals report life satisfaction equally high regardless of their relationship status, and that dismissing-type individuals’ life satisfaction judgments are lower when in a relationship than when single, suggesting that having a romantic partner can alter life quality perceptions for insecure individuals.

Study 2 sought to investigate possible further social psychological bases for the observed differences in life satisfaction experienced by examining differences in social comparison tendencies. Indeed Diener and Fujita (1997) have highlighted social

comparison as an important determinant of subjective well-being and life satisfaction in particular and hence formed a basis for inclusion of this social cognitive factor as a potential factor in accounting for attachment-based differences in life satisfaction judgments. As identified in Chapter 1's literature review, social comparison had rarely been considered within an attachment theoretical context; both Gabriel et al. (2005) and Mikulincer et al. (1998) found evidence to suggest a cognitive distancing (that is, perceptions of dissimilarity of self in comparison to other) for high avoidance and the opposite pattern for low avoidance. Social ranking in adolescence was also found to be predicted by and correlate with self-reported attachment (Irons & Gilbert, 2005) however actual tendencies to engage in social comparison, as well as affective antecedents and consequences of social comparison, had not been explored previously. Having identified that social comparison tendencies do indeed differ by virtue of individuals' anxiety- and avoidance-based feelings and cognitions, further mediation analyses found that tendency to contrast from superior-perceived others partially mediated the association between anxiety and satisfaction with life, suggesting that high-anxiety individuals' lesser satisfaction with life is partially accounted for by their tendency to focus on that which differentiates them from perceived better-off others. Conversely this mediation analysis suggests also that low-anxiety individuals' lesser tendency to focus on the differences between themselves and perceived better-off others partially accounts for their greater life satisfaction. Although the specific attachment theoretical bases for life satisfaction differences was thoroughly considered within Study 1A, the results of Study 2A suggested that social comparison processes serve a further social cognitive role in life satisfaction differences. In further examining social comparison differences within a specific interpersonal context (that is, partner and relationship social comparison tendencies), a similar mediating pattern emerged. Here, high-anxiety individuals' greater tendency to contrast and therefore see differences in their own relationship from perceived desirable others contributed to their lesser life satisfaction (and conversely then, low-anxiety individuals' lesser upward contrast tendency contributes to their higher life satisfaction).

Study 2A explored only a small number of social comparison factors (namely, directional and identification and contrast tendencies) in examining well-being associations for self-reported attachment. Having identified that certain comparison proclivities (namely, adverse upward contrast) contribute to feelings of life satisfaction (as well as self-esteem) on the basis of individuals' anxiety, the findings of Study 2A

have highlighted this social cognitive topic as worthy of empirical focus and therefore might serve to provide direction for future research to explore additional aspects of social comparison that might have an impact on individuals' subjective well-being experience. As suggested earlier within Study 2, being able to expand on the diary study methodology utilised in Study 2B to include immediate well-being reactions beyond affective change, as well as include more detailed information on the nature of the comparisons participants report, would provide further insight into this research area. Experimental work also may be beneficial in gaining further understanding of individuals' attachment-based cognitive and affective reactions to being presented with social comparison information. For example, a possibility may be to bring couples to a laboratory, have each couple member complete an attachment measure, and then explain to them that they need to wait in a separate area briefly while the next stage of the study is being prepared. During this time a second couple (working with the experimenter) who are also 'waiting' would be required to either act warmly and positively towards each other, or coldly and negatively towards each other (thus each of these conditions representing potential upward or downward comparison targets). The actual participating couple could then be brought into the lab, asked to complete measures that assess well-being (namely positive and negative mood and life satisfaction) and then presented with a basic cognitive task that they have been told is what the study is focusing on so to distract from what the study is actually examining. An experiment in this way might then serve to provide further information on individuals' actual well-being reactions when being confronted with potential interpersonal comparison information.

The above example is only one possibility for further exploration of this topic, however as previously put forward, the current series of studies identified an underexplored research area in the form of self-reported attachment, social comparison, and subjective well-being and the significant findings observed herein may serve to encourage future empirical attention.

A further aspect explored was relationship satisfaction differences and the role of social comparison. Study 1B replicated the findings of a larger body of self-report adult attachment research that has found individuals reporting as secure to report the greatest satisfaction with their relationships and insecure individuals to report lesser satisfaction. Analytic consideration of relationship satisfaction did not prove it to be a moderator for the association between anxiety and avoidance and life satisfaction however interpersonal social comparison tendency was identified in Study 4 to be a mediator for

the association between attachment anxiety and relationship satisfaction. Similar to the findings for life satisfaction, while there is much in attachment theory itself that can account for the observed differences in experience of relationship satisfaction or dissatisfaction, the current series of studies revealed social cognitive factors in the form of social comparison tendencies to provide further insight into this research area. Similar to the above discussion, having identified that social comparison of romantic relationships may contribute to differences in interpersonal and subjective well-being, there is potential for expansion of this underexplored research topic.

A further possible role of social comparison in interpersonal processes was put forward on the basis of the combined findings of Study 3 and Study 4B; high-anxiety individuals were found to report more often comparing several partner and relationship qualities, even those not reported to be more important to them than their low-anxiety counterparts. On this basis it was reasoned that the demonstrated greater propensity to compare own relationship and partner to others' may represent a further cognitive strategy utilised by high-anxiety individuals to be vigilant to signs of rejection or acceptance. Previous research within the self-reported adult attachment literature has examined high-anxiety individuals' hypervigilant behaviours and negative biases in interpretation of partner behaviours that result from desire for acceptance and worry of rejection, however the social cognitive strategy of social comparison has not been considered previously as a further cognitive avenue for monitoring of the acceptance and rejection such individuals are described as preoccupied with. Much of previous research has focused on intra-relationship processes, such as affective experiences of jealousy and controlling and possessive behaviours, but not of inter-relationship processes, such as those encapsulated by social comparison. The combined results of Study 3 and 4B might then have provided an empirical basis for consideration of social comparison as an extension of anxious individuals' hypervigilance. Through such individuals' greater propensity to compare their own partners' behaviours with other couples' behaviours towards each other, anxious individuals might see contrasts in which their own relationships are perceived as inferior (which the results of Study 4B found to be more typically engaged in by high-anxiety individuals) to represent confirmation of partners' lesser regard of them and as such representing a lacking of the acceptance they desire. While interesting, this theoretical consideration is speculative; the combined results of Studies 3 and 4B may be suggestive of indicating hypervigilance but further research

should now be carried out to further examine this notion and attempt to find significant results to provide support.

A further adult attachment and well-being pattern not examined previously is that of changes in well-being in response to relationship status change. While highly-informative previous research has empirically explored affective and cognitive experience following relationship dissolution (e.g., Barbara & Dion, 2000; Davis et al., 2003; Feeney & Noller, 1992; Pistole, 1995; Sprecher et al., 1998), the prospective nature of the longitudinal studies 1C and 1D enabled a perhaps unique insight into well-being experiences during interpersonally significant events. That is, with participants reporting their weekly feelings of well-being across the 6-month study duration, Study 1C was able to capture more naturalistic participant reports of well-being both in the few days before their current relationship ended (or indeed conversely the few days before a new relationship commenced) and in the immediate few days after this event occurred. The results of this study therefore do not rely upon retrospective reports of relationship events experienced weeks or months previously that may have a certain amount of limited accuracy due to passage of time skewing memory, current cognitions influencing remembrance of previous cognitions, or individuals' reliance on a priori assumptions of how they believe they may have felt rather than performing a form of introspective analysis to determine how they actually felt (see Nisbett & Wilson, 1977). As such, with each weekly set of data completed by participants representing (at the time) current cognitive and affective assessment, the results of Studies 1C and 1D are advantageous in that they are less subject to time-related declines in accuracy.

What was revealed from regression and multi-level modelling analyses was that secure-type individuals appear better cognitively tuned to cope with negative interpersonal events. Such individuals reported minimal changes in life satisfaction and self-esteem in the week subsequent to a relationship breakdown, providing further evidence to that presented previously within the adult attachment literature that such individuals rely on cognitive strategies that see potentially negative responses be processed in such a way to prevent cognitive escalation. Indeed cognitive and affective escalation is a trait associated with high-anxiety individuals (that is, both preoccupied- and fearful-types) and this too was demonstrated within Study 1C through the greater decreases in life satisfaction and self-esteem judgments, as well as adverse changes in positive and negative moods. What was further interesting in the findings of Study 1C in particular regarding high-anxiety individuals' cognitive reactions to change in

interpersonal circumstances was the combination of results suggesting high-anxiety individuals' self-esteem to suffer from relationship breakdown but not to benefit from the starting of a new relationship. That is, while high-anxiety individuals may interpret relationship termination to reflect negatively on them, they are unable to interpret relationship commencement as reflecting positively on them, providing further support with attachment theorising of anxiety manifesting a negative cognitive bias.

Limitations in the studies' methodologies, for example the nature of individuals' relationship breakdown experiences was not recorded, might be addressed in future research in which consideration of whether relationship terminations were amicable and/or mutual, the result of gradual decline and dissatisfaction or were abrupt and sudden, as well as who initiated the breakup, might allow for greater understanding of individuals' attachment-based reactions to their interpersonal circumstances. Furthermore future research's expansion on the findings identified here might also consider social comparison perceptions in the more immediate days or weeks subsequent to relationship status changes. While it was the aim of Study 5 to be able to examine social comparison in the form of ranking perceptions across time, it may be that the lack of statistically significant findings obtained for the interactions between anxiety and time are due to the typical relationship length (as well as length of time single) being long. It may be that capturing social ranking feelings within the more immediate weeks of either being in a new relationship or being without one would reveal the hypothesised differences in social hierarchical perceptions.

A further potential limitation that will need to be addressed and considered in future empirical endeavours is that the nature of the data collection, whilst useful in the novel information gathered, did not permit the direct testing of the psychological mechanisms discussed as potentially accounting for the observed attachment-based differences in subjective well-being experience. The theoretical reasoning that formed the basis for expectations and hypotheses was that of self-aspect structure and complexity (encapsulated within Linville's (1985, 1987) self-complexity model and related to Mikulincer's (1995) exploration of attachment-based complexity and positivity of self-schema), cognitive processing styles of oral and written evaluation of significant events versus ruminative-style processing strategies (e.g., Lyubormirsky et al., 2006), and maladaptive placing of greater importance on relationship quality for well-being as well as unrealistic relationship standards (e.g., Simpson & Rholes, 2004). As such, while the results obtained within Study 1 were consistent with these proposed theoretical

contentions (and therefore provided a solid basis for carrying out the study), the structure of the study did not permit direct testing of these principles. Having considered these theoretical perspectives within the context of attachment-based experience of subjective well-being and identified theoretically-consistent results, it is recommended that future research utilise methodologies that can directly capture whether the above cognitive strategies do indeed serve as contributors.

As earlier mentioned, while Study 5 did not reveal anxiety to interact with time to predict differences in social ranking judgments, the results of regression analyses did indicate there to be differences in baseline social ranking perceptions both on the basis of anxiety and avoidance, as well as identify differences in belongingness on the basis of anxiety's interaction with avoidance. Although Irons and Gilbert (2005) have previously explored baseline differences in social ranking within an adolescent sample, the current method of measurement of attachment (that is, dimensional that permits the calculation of four 'classification' types representative of the four-category attachment classification system put forward by Bartholomew and Horowitz (1991)) is argued to have a greater accuracy advantage. Although Irons and Gilbert (2005) did calculate more dimensional scores from their categorical measure (calculated from participants' Likert-type ratings of their level of agreement with each description), the tripartite nature of the scale they used means that no consideration of adolescents whose feelings of anxiety and avoidance correspond to Bartholomew and Horowitz' (1991) fearful-avoidance could be examined. By utilising a dimensional measurement of attachment, Study 5 was able to determine that as anxiety and avoidance independently increase, social ranking perceptions decrease (that is, become less favourable), while anxiety's interaction with avoidance could identify 'classification'-based differences in individuals' sense of group belonging.

A further novel finding identified in Study 5 was that which revealed social ranking perceptions to differ on the basis of relationship status. This study then is the first to examine and identify that whether individuals are currently in a romantic relationship or currently single sees differences in how positively or negatively they rate themselves in the context of self-other perceptions. The additional finding that anxiety and relationship status interacted to predict differences in social ranking judgments produced perhaps unintuitive results (that is, that low anxiety individuals currently single reported higher self-ranking ratings than their romantically-involved counterparts). While counter to that which could be expected on the basis of attachment

theory, this result highlights that further empirical investigation into the nature of individuals' anxiety-based social hierarchical ratings may provide further insight into the influence of attachment orientation on social cognitive judgments.

In summary, the current series of work has contributed to the existing body of research examining attachment-based differences in interpersonal and subjective well-being by examining moderating factors of interpersonal experiences and the mediating influences of social comparison (both general and within specific interpersonal contexts). The significant results identified, with exception of those testing Hypothesis 3 within Study 5, were theoretically consistent and therefore further contributed to current understanding by providing insight into how attachment-based cognitions can have broader influences that extend beyond interpersonal understanding and experience. The principles encapsulated within attachment theory (that is, the way individuals understand themselves and others through perceptions of self-worth and others' availability and reliability, that early experiences with caregivers have a longevity into adult experiences with significant others, and that biases in interpersonal interpretation influence cognitive and affective reactivity) have been observed here to influence self-other comparative judgments and the positivity and negativity in the inferences made, and to influence overall well-being, both due to interpersonal experiences and those positive and negative social comparison proclivities. The current series of studies produced results therefore that suggest that an avenue for advancement of further understanding of the intricacies of attachment theory and how such intricacies may influence how positively or negatively individuals experience their social worlds may be via the consideration of additional cognitive and social cognitive theoretical perspectives that encapsulate processes that may work in conjunction with those encapsulated within attachment theory. The direct testing of social comparison theory and social ranking, the indirect testing of cognitive theories pertaining to self-complexity and cognitive processing style (e.g. Linville, 1985, 1987; Lyubormirsky et al., 2006), and the additional consideration of interpersonal circumstances appear to form a more complex gestalt that together allowed for the identification of new findings to contribute to the existing adult attachment literature.

List of Publications by the Candidate

Journal Articles

- Holmes, B. M., & Johnson, K. R. (2009c). Adult attachment and romantic partner preference: A review. *Journal of Personal and Social Relationships*, 26, 833-852.
- Johnson, K. R., & Holmes, B. M. (2009). Contradictory Messages: A content analysis of Hollywood-produced romantic comedy feature films. *Communication Quarterly*, 57, 352-373.

Book Chapters

- Holmes, B. M., & Johnson, K. R. (2009a). Where fantasy meets reality: Media exposure, relationship beliefs and standards, and the moderating effect of a current relationship. In F. Columbus (Ed.), *Social Psychology: New Research* (pp. 117-134). Hauppauge, NY: Nova Science Publishers.
- Holmes, B. M., & Johnson, K. R. (2009b). Advice, self-help, and advice in the media. *Encyclopaedia of Human Relationships*. Sage Publications.
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